

Guide to Watershed Planning and Management

**A Manual to Assist Washington's Local Governments and Tribes with Watershed
Planning and Management Under the Watershed
Management Act (RCW 90.82/ESHB 2514)**

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Prepared for

**Association of Washington Cities
Washington State Association of Counties
Washington State Water Resources Association
Washington Association of Sewer and Water Districts
Washington Public Utility Districts Association**

In Association with

**Washington Department of Ecology
With Assistance from
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Washington Department of Fish and Wildlife
Washington Department of Community, Trade, and Economic Development**

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Additional copies of this manual may be ordered from the Department of Ecology (contact Melissa Gildersleeve; (360) 407-6548; mgil@ecy461.wa.gov). In addition, the Department of Ecology maintains information regarding watershed planning on a Web Site at <http://www.wa.gov/ecology/lats-etc.html>.

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Table of Contents

List of Acronyms and Definitions

Executive Summary

1 Introduction

1.1 Purpose of Manual	1-1
1.2 Background on Manual Development Process	1-2
1.3 What is a Watershed Plan?.....	1-3
1.4 Short-term and Long-term Considerations for Watershed Management.....	1-5
1.5 Techniques for Reaching Agreement	1-6
1.6 Purposes, Limitations, and Procedural Requirements of the Watershed Management Act.....	1-6
1.7 Relationship to Concurrent Planning Processes	1-8
1.8 Manual Organization	1-9

2 Initiating Planning and Getting Organized (Phase 1)

2.1 Potential Benefits and Challenges of Using the Watershed Management Act Process	2-1
2.2 Initiating the Process.....	2-3
2.3 Forming the Planning Unit.....	2-7
2.4 Organization of the Planning Unit.....	2-11
2.5 Public Involvement.....	2-16
2.6 Defining Planning Unit Mission and Objectives	2-17
2.7 Establishing Linkages with Parallel Activities	2-17
2.8 Establishing Linkages with Adjacent WRIAs	2-20
2.9 Integration with SEPA and NEPA.....	2-20

3 Developing a Work Plan, Schedule, and Budget (Phase 1)

3.1 Establishing the Overall Scope of Planning	3-1
3.2 Prioritization of Sub-basins Within the Management Area	3-4
3.3 Developing a Work Plan.....	3-5
3.4 Schedule for Watershed Planning and Management	3-9
3.5 Budget for Watershed Planning and Management	3-9

4 Process of Conducting Technical Assessments (Phase 2)

4.1 Time Frames and Objectives of Data Collection	4-1
4.2 Required Contents of Technical Assessment.....	4-2
4.3 What Constitutes Adequate Technical Assessment	4-4
4.4 Developing a Water Balance	4-6
4.5 Estimating Water Rights and Uses	4-8
4.6 The Technical Assessment Process.....	4-9

4.7	Level 1 Technical Assessment: Putting Existing Data to Work.....	4-10
4.8	Level 2 Technical Assessment: Short-term Collection of New Data	4-12
4.9	Level 3 Technical Assessment: Long-term Data Collection and Monitoring	4-13
4.10	Feedback Process.....	4-14
4.11	The Technical Assessment Protocol.....	4-15
4.12	The Technical Validation Process (TVP).....	4-16
5	Resources for Data and Technical Assistance (Phase 2)	
5.1	Sources of Data	5-1
5.2	State and Federal Technical Assistance	5-1
6	Data Management and Access (Phase 2 and Long-term)	
6.1	Principles for Data Management	6-1
6.2	Assign Responsibility for Data Management and Maintenance.....	6-2
6.3	Data Protocols and Documentation.....	6-2
6.4	Hardware/Software.....	6-4
6.5	Integration with Existing Local Government Information Systems	6-4
6.6	Data-sharing Agreements/Policies	6-4
7	Watershed Plan Development (Phase 3)	
7.1	Public Participation	7-1
7.2	Planning Parameters	7-1
7.3	Issue Identification	7-2
7.4	Issue Characterization	7-2
7.5	Identify Alternative Solutions.....	7-3
7.6	Evaluate Alternatives and Recommend Solutions	7-4
7.7	Design Implementation Program	7-6
7.8	Plan Contents.....	7-7
8	Watershed Plan Approval and Adoption	
8.1	Planning Unit Approval and Submittal of Plan to Counties	8-1
8.2	Adoption of Implementing Rules and Ordinances.....	8-3
8.3	Integration with SEPA	8-5
9	Implementation and Financing	
9.1	Formal Agreements.....	9-1
9.2	Optional Implementation Committee.....	9-2
9.3	Options for Financing Plan Implementation	9-3
9.4	Integrating Plan Implementation with Related Programs	9-4
9.5	Long-term Monitoring and “Adaptive Management”.....	9-5

10 Bringing it all Together: The Complete Planning Process

11 Special Considerations

11.1 Listings Under the Endangered Species Act 11-1

11.2 Integration with Local Comprehensive Planning and GMA 11-4

11.3 Integration with SEPA and NEPA 11-6

11.4 Tribal and Other Federal Reserved Water Rights 11-10

11.5 Basins Discharging to the Columbia River 11-11

Bibliography

List of Appendices

- A Watershed Management Act
- B Summary of Salmon Recovery Act
- C Examples of Intergovernmental Agreements
- D State Agency Contacts for Watershed Planning
- E State Agency MOU on Watershed Planning
- F Education and Public Involvement
- G Setting Instream Flows in Washington State
- H Department of Fish and Wildlife Potential Information Sources
- I Water Resource Act of 1971: Eleven Fundamentals
- J Examples of Consensus-based Procedures
- K Wild Salmonid Listing Status

List of Tables

2-1	Relationships Between Existing Programs and Watershed Planning.....	2-19
4-1	Technical Assessment Requirements of the Watershed Management Act	4-2
5-1	Data Needs and Sources: Water Quantity	5-4
5-2	Data Needs and Sources: Water Quality	5-5
5-3	Data Needs and Sources: Habitat.....	5-6
5-4	Data Needs and Sources: Instream Flows	5-6
11-1	Comparison of Suggested Watershed Planning Process with a SEPA Environmental Impact Statement	11-9

List of Exhibits

ES-1	Water Resource Inventory Areas	ES-10
ES-2	A Watershed Planning Vision	ES-11
ES-3	Roles and Responsibilities for Watershed Planning	ES-12
ES-4	Four Elements of Watershed Planning Under the Watershed Management Act.....	ES-13
ES-5	Watershed Planning Process Overview.....	ES-14
ES-6	Development of the Watershed Plan.....	ES-15
ES-7	Short-term and Long-term Funding Sources.....	ES-16
2-1	Water Resource Inventory Areas	2-21
2-2	Tribal Lands and Reservations	2-22
2-3	Roles and Responsibilities for Watershed Planning	2-23
3-1	Four Elements of Watershed Planning Under the Watershed Management Act.....	3-11
3-2	Sub-Basin Priorities – A Hypothetical Case	3-12
4-1	Evaluating the Degree of Technical Assessment Needed	4-18
4-2	Steps in Technical Assessment.....	4-19
7-1	Development of the Watershed Plan	7-9
8-1	Plan Approval Process Prescribed in the Watershed Management Act.....	8-6
9-1	Short-term and Long-term Funding Sources.....	9-6
9-2	Implementation of Watershed Plan.....	9-7
10-1	Watershed Planning Process.....	10-2

List of Acronyms and Definitions

Note: The definitions below include some terms that are drawn directly from State laws and regulations, and others that were developed solely as an aid to understanding this manual. Where definitions were drawn from State laws or regulations, including the Watershed Management Act, a citation is provided. Definitions without citations should not be interpreted to represent State laws or policies.

Adaptive Management: Continual improvement of the Watershed Management Program, based on a sound system of information collection over time.

Comprehensive Plan: A comprehensive plan prepared by a city or county. Includes Growth Management Act (GMA) plans and non-GMA plans.

Consensus: This term appears in the law, but was not defined by the Legislature. Examples of consensus processes are included in Appendix D.

DFW: Washington Department of Fish and Wildlife

DNR: Washington Department of Natural Resources

DOH: Washington Department of Health

Ecology: Washington Department of Ecology

ESU: Evolutionarily Significant Unit. A type of designation for species listed under the Endangered Species Act.

FERC: Federal Energy Regulatory Commission

GMA: Growth Management Act

Habitat Element: One of the three optional elements of watershed planning under RCW 90.82. Addresses fish habitat within the management area.

Implementation Committee: An optional committee that can be established on an interim or long-term basis at the planning unit's discretion. Composed of organizations that will fund and implement Watershed Management actions, this committee is intended to critique proposed recommendations in terms of implementability, design funding mechanisms, and set the stage for adoption and implementation. Following plan adoption, this committee can serve as a management team for Watershed Management actions.

Initiating Governments: Within each management area, a specific set of local and tribal governments designated by RCW 90.82 for the purposes of initiating watershed planning under the program.

Instream Flow Element: One of the three optional elements of watershed planning under RCW 90.82. Addresses recommendations for setting or revising minimum instream flows on one or more streams within the management area.

Lead Agency: Under RCW 90.82, an organization designated by the initiating governments for the purposes of receiving and administering State grant funds related to watershed planning.

Limiting Factors Analysis: A method for identifying salmonid restoration actions, described in the Salmon Recovery Act (ESHB 2496).

Management Area: Under RCW 90.82, a single-WRIA or multi-WRIA area designated by the Initiating Governments for the purposes of Watershed Planning and Management.

Minimum Instream Flow: A minimum flow under RCW 90.03 or 90.22 or a base flow under RCW 90.54

MOA/MOU: Memorandum of Agreement or Memorandum of Understanding

NMFS: National Marine Fisheries Service

Obligation: Any action required as a result of activities undertaken while implementing provisions of the Watershed Management Act that imposes upon a tribal government, county government or state government, either: a fiscal impact; a redeployment of resources; or a change of existing policy (RCW 90.82).

Planning Unit: A group that represents a wide range of water resource interests, tasked with conducting a watershed assessment and completing a watershed plan for one (or more) WRIs. The initiating governments are responsible for development of an inclusive planning unit for the WRIA (RCW 90.82).

RCW: Revised Code of Washington

Salmon Recovery Act: ESHB 2496

SEPA: State Environmental Policy Act

Sub-basin: A geographic portion of a management area, defined by the planning unit, on the basis of hydrologic or hydrogeologic characteristics

Technical Assessment Protocol (TAP): a protocol addressing the types of data, methods of data collection, and intended uses of data to be collected during the technical assessment phase of watershed planning.

Technical Validation Process (TVP): a process involving either a technical panel consisting of staff from planning unit organizations or a group of disinterested technical experts from

outside the management area, designed to validate technical protocols, data collected, and technical findings. The planning unit may determine the need for this process, how it is to be conducted, and by whom.

Total Maximum Daily Load (TMDL) Process: A process to identify sources of pollution in waters, determine how much of each kind of pollution the waters can receive without violating water quality standards, and set allowable pollution limits for various sources. Federal law requires states to undertake a TMDL process.

USFWS: United States Fish and Wildlife Service

USGS: United States Geological Survey

Water Supply Utility: As defined by RCW 90.82: “a water, combined water-sewer, irrigation, reclamation, or public utility district that provides water to persons or other water users within the district or a division or unit responsible for administering a publicly governed water supply system on behalf of a county.”

Water Quality Element: One of the three optional elements of watershed planning under RCW 90.82. Addresses surface and/or groundwater quality within the management area.

Water Quantity Element: Under RCW 90.82, the one element of watershed planning that is required if watershed planning grant funds are used. Addresses the quantity of water available for both instream and out-of-stream uses and purposes, current and future needs, legal rights, claims and other commitments, and strategies for management.

Watershed Plan: A document presenting the findings and recommendations of the planning unit for a Watershed Management Program in the management area.

Watershed Management Act: Chapter 247 of the laws of 1998 (C247 L98) codified in RCW 90.82; also known as Engrossed Substitute House Bill 2514 as passed by the 1998 Washington State Legislature, and signed by the Governor.

Watershed Management Program: A long-term program for adaptive management of water resources in the management area, which provides for instream and out-of-stream uses.

Water Resource Inventory Area (WRIA): One of 62 geographic areas comprising the State of Washington, defined on the basis of surface water resources and codified in Washington Administrative Code 173-500-040.

Watershed: For the purposes of this document, a management area consisting of one or more complete WRIs.

Executive Summary

The Watershed Management Act

Diminishing water availability and quality, and the loss of critical habitat for fish and wildlife are key issues facing the State of Washington. Our State depends on reliable supplies of clean water to support growing communities, restore our fisheries resources, and support agricultural production. The 1998 Legislature passed the Watershed Management Act to provide a framework for local citizens, interest groups, and government organizations to collaboratively identify and solve water-related issues in each of the 62 Water Resource Inventory Areas (WRIAs) of the State (see Exhibit ES-1).

The Watershed Management Act enables, but does not require, local groups called “planning units” to form for the purpose of conducting planning. If certain designated local governments and special districts agree to initiate planning, a planning unit may be formed. The State may then offer grants of up to \$500,000 per WRIA to fund watershed planning.

Under the law, citizens, local governments, tribes, and other members of a planning unit have considerable flexibility to determine the planning process, focus on areas or elements of particular importance to local citizens, assess water resources and needs, and recommend management strategies. The law also includes constraints on the activities of planning units. For example, the planning unit does not have the authority to change existing laws, alter water rights or treaty rights, change treaties, or require any party to take an action unless that party agrees.

Purpose of this Manual

This manual has been developed as an aid to citizens, local governments, Indian tribes, and others interested in watershed planning under the Watershed Management Act. The manual presents the requirements of the Watershed Management Act, but also goes further by offering a variety of suggestions for navigating the planning process to achieve the objectives stated in the law. Except where clearly indicated in the text, the approaches offered in this manual are voluntary. It is anticipated that each planning unit will use elements of this manual as they deem appropriate. A full copy of the Watershed Management Act is attached as Appendix A for further reference to the law’s specific provisions.

It is expected that this manual will be updated and refined over time, particularly as the first group of planning units to receive funding make progress in 1999. This will permit the manual to more fully convey not only the technical aspects of watershed planning, but also how to effectively engage participants in making the critical tradeoffs at the heart of the watershed management process.

This manual was developed as an initiative of the following State-wide associations:

- ☐ Association of Washington Cities;
- ☐ Washington State Association of Counties;
- ☐ Washington Public Utility Districts Association;
- ☐ Washington State Water Resources Association; and,
- ☐ Washington Association of Sewer and Water Districts.

The local governments and special districts represented by these five associations, together with Indian tribes, are specifically identified under the Watershed Management Act as “Initiating Governments,” empowered to obtain State funding and initiate watershed planning for a given WRIA. The five associations invited representatives of Indian tribes and four State agencies (Ecology, Health, Fish and Wildlife, and Community Trade and Economic Development) to contribute to development of the manual. In addition, Ecology provided funding to develop and produce this document.

Watersheds and WRIs

Natural resource agencies at the national, State, and local levels have increasingly adopted the concept of “watersheds” in their policy and programmatic approaches. At the most basic level, a watershed is a geographic area where any drop of rain will drain to a single body of water, such as a lake or river. A watershed can be as small as a basin that drains to a tiny creek, or as large as the Columbia River Basin. The important thing to recognize is that water resource issues such as water supply, water quality, and habitat for fish and wildlife are closely linked together within watersheds. What happens upstream affects what happens downstream.

The Legislature embraced this concept in passing the Watershed Management Act. However, in order to simplify its application within the existing water resources management structure for the State, the law uses WRIs as the organizing geographic unit. Under the law, planning must include either an entire WRIA, or more than one entire WRIA. There are 62 WRIs in the State. Some of these are unitary river basins, where all surface waters flow into a single river. Others are artificially-defined segments of a basin, such as a “lower,” and “upper” basin. Still others are actually assemblages of many distinct streams or rivers that never join together. The presence and movement of groundwater may roughly correspond with that of surface waters in a WRIA, or may behave very differently, depending on local conditions.

The geographic area contained in a WRIA rarely corresponds with political jurisdictions such as city or county boundaries. Most WRIs include parts of two or more counties, and a number of cities. One of the key challenges of locally-based watershed planning is development of collaborative problem-solving techniques and design of effective implementing actions that can work across jurisdictional boundaries.

Key Concepts Used in this Manual

Exhibit ES-2 offers a conceptual vision of the type of problem-solving that can be pursued under the Watershed Management Act. The watershed pictured is purely hypothetical and the problem-solving approach shown is offered solely to assist planning units in brainstorming

their own, WRIA-specific planning vision. In the example pictured, identified problems, related programs, and technical information are all brought together in the framework of the watershed plan. The plan then provides recommendations both for the short-term and the long-term. Short-term recommendations address specific actions that can be taken, with the understanding that their continued implementation may be conditioned on specific outcomes. Long-term recommendations include three primary elements: designation of the specific organizations that will implement the plan; a continued collaborative decision-making process; and a long-term information-collection strategy to improve understanding of critical trends and to monitor changing conditions. The result in this hypothetical example is essentially an “adaptive management” strategy that permits learning and continual improvement to continue within the broad parameters established in the watershed plan.

The box on page ES-4 presents a number of key concepts that were developed for this manual. Only one of these concepts (inclusivity and public input) is stated directly in the law. The remaining concepts represent the recommendations of the working committees established to produce this manual, and can be used by planning units at their own option.

Key Concepts in Watershed Planning Manual	
<ul style="list-style-type: none"> ❑ A watershed plan does not need to offer all the answers. Instead, it can lay out a long-term process towards finding answers and improving solutions. ❑ Watershed planning needs to be fully integrated with other planning and regulatory programs; ❑ Planning units can make their work easier by distinguishing clearly between: <ul style="list-style-type: none"> A) agreement on facts; and B) agreement on the implications of facts and the resulting recommendations; 	<ul style="list-style-type: none"> ❑ The planning process must be broadly inclusive and use public input (required in the law); ❑ The plan must establish a vision and context for the entire watershed; but the planning unit may choose to focus resources on problem-solving in particular sub-basins; ❑ Implementation must be considered at every stage of the planning process.

Roles and Responsibilities in Watershed Planning

Exhibit ES-3 shows the roles and responsibilities of various organizations and the public in undertaking planning. At the initiation stage, a specified group of “initiating governments” designated in the law may choose whether or not to undertake planning and apply for State grant funding. Without the concurrence of all the initiating governments, planning cannot proceed under the law. However, there is one exception: Indian tribes may choose to be initiating governments, but their concurrence is not required in order for planning to proceed. The initiating governments also are empowered to determine the scope of planning. The law requires that grant money be used to address water quantity issues. The law provides that grant money may also be used to address water quality, fish habitat, and instream flows, at the option of the initiating governments (see Exhibit ES-4).

The initiating governments are also charged with forming a planning unit, to include broad representation of water-resource interests in the watershed. Once the planning unit has been formed, however, it is this body that conducts planning and produces the watershed plan. In other words, apart from the specific actions associated with initiating planning, the initiating governments have an identical role and level of authority as all other members of the planning unit.

Other important aspects of roles and responsibilities are worth noting:

- ❑ When the planning unit approves the plan, the approval process gives greater weight to government members of the planning unit. A plan may be approved by a consensus among all members, or by a consensus among government members (including tribes) and a majority vote of all other members;

- ☐ The county legislative authorities of all counties with land in the WRIA or multi-WRIA area have the final say in approving the watershed plan;
- ☐ The planning unit cannot impose an obligation on any organization, unless that organization is represented on the planning unit and agrees to accept that obligation, using a recorded vote;
- ☐ Public input is required under the law, but the planning unit is free to design an appropriate process for obtaining public input. County legislative authorities must conduct a hearing prior to approving the plan submitted by the planning unit;
- ☐ State agencies may be invited to join the planning unit, but this is not required. There is no requirement that a watershed plan be approved by any State agency.
- ☐ The planning unit may include any other members deemed appropriate. The initiating governments are charged with developing a process to form an appropriate planning unit.

State agencies recently signed a Memorandum of Understanding to facilitate State involvement in watershed planning and salmon restoration. The MOU is intended to improve coordination among agencies, so that the State of Washington can “speak with one voice” on these issues. One element of this MOU establishes an interagency lead that will represent all state agencies invited to join a watershed planning unit. A caucus process among the State agencies is also specified, to permit State coordination among agencies.

The Planning Process

Exhibit ES-5 displays an overview of the entire planning process, from initiation to implementation. The exhibit is broken into five sections based on the law’s framework. These sections are discussed below.

Initiation

Initiation of planning has been discussed above.

Phase 1: Organization

Phase 1 of planning consists of organizing the planning unit. The grant program allots up to \$50,000 per WRIA to this phase, or \$75,000 for a multi-WRIA area. The activities encompassed in organizing the planning unit are not specified in the law. This manual suggests a variety of activities for this phase, including:

- ☐ Determination of goals and objectives;
- ☐ Development of a charter or agreement formally defining roles and responsibilities of planning unit members and establishing a clear framework for planning;
- ☐ Development of a work plan for achieving the planning unit’s objectives, including a schedule and budget;
- ☐ Prioritization of issues and/or sub-basins within the WRIA or multi-WRIA area;

- ☐ Structuring of the planning unit, such as designation of committees to perform specific functions;
- ☐ Development of a public-involvement and education process;
- ☐ Assessment of ongoing planning efforts and regulatory processes relevant to the scope of watershed planning, and establishment of linkages with key programs; and
- ☐ Establishment of a data-management program.

Phase 2: Conducting Watershed Assessments

The State grants program provides up to \$200,000 per WRIA for conducting watershed assessments. The law prescribes certain contents that must be addressed for each of the four elements of watershed planning (water quantity, water quality, fish habitat, and instream flows).

This manual offers suggestions for data sources that can assist planning units in their watershed assessments. In addition, a Bibliography is provided with reference materials on technical methods and protocols. In addition, this manual provides a suggested “thought process” that can aid planning units in developing a timely and cost-effective approach to technical assessment of watershed conditions. This approach seeks to clearly distinguish between factual information and the separate issue of implications and recommendations the planning unit may develop based on that factual information. Key elements of the suggested approach are:

- ☐ Prioritization of technical assessment efforts based on the level of risk associated with issues in specific sub-basins, and the quality of existing information;
- ☐ Developing a written Technical Assessment Protocol that specifies objectives, techniques and end points of data collection, prior to reviewing data or undertaking new studies;
- ☐ Dividing data collection and studies into three phases;
- ☐ Existing information, which should be used to the greatest extent possible;
- ☐ New, critical, short-term studies (limited to studies vital to plan completion, that can be completed within the four-year time frame allotted for planning);
- ☐ Long-term monitoring to fill additional data gaps and inform “adaptive management” after the watershed plan is approved; and,
- ☐ Use of a peer-review process to validate data and findings.

This manual also offers suggestions for developing a data-management system. Key attributes include access by all members of the planning unit; assessment of funding, staffing, and technical requirements; use of standard protocols to facilitate data sharing; and adequate documentation to permit use of the data over time by multiple users.

Phase 3: Developing a Watershed Plan and Making Recommendations

This manual offers a planning process (Exhibit ES-6) that uses traditional techniques such as identification of issues; analysis of causes and effects; analysis of alternative solutions using specified criteria; and recommendation of preferred alternatives. In addition, it is suggested that planning units devote considerable attention to designing an implementation program to ensure plan elements can achieve the desired objectives. This includes designation of implementing organizations, together with obtaining the commitments of those organizations; identification of funding sources, and development of fallback plans in case certain plan elements cannot be implemented as expected.

One of the key aspects of watershed planning is integration with related planning processes and programs. Suggestions are offered for building this integration into the planning process. This manual devotes special attention to integrating watershed planning with city and county comprehensive plans (both those completed under the Growth Management Act, or GMA, and those completed in non-GMA jurisdictions); integrating with salmon recovery efforts including the Salmon Recovery Planning Act (ESHB 2496); and, integrating with the State Environmental Policy Act (SEPA). Incorporating SEPA procedures into the watershed planning process can greatly improve the watershed plan, and streamline its implementation.

Approval Process

The Watershed Management Act defines a clear two-step process for approving the watershed plan. First, the planning unit itself must approve the plan, either by consensus among all members; or by consensus among the members appointed to represent units of government and a majority vote of non-governmental members. Terms such as “consensus” and “government members” are not defined in the law, and may require special attention by the planning unit.

Once the planning unit has approved a plan, or specific elements of a plan, it can submit the plan (or elements) to the county legislative authorities of all counties with territory in the WRIA or multi-WRIA area. Each county is required to hold a public hearing. All of the counties involved are then directed to hold a joint session of their legislative authorities to consider approving the plan. The joint session may either approve the plan by a majority vote of the members of each of the counties’ legislative authorities; or return the plan to the planning unit with recommendations for changes. However, the county legislative authorities are not empowered to change the plan themselves. If the plan is returned to the planning unit, it may amend the plan and re-submit it to the counties for approval using the same process.

If the watershed plan is approved in the manner described above, the Watershed Management Act requires counties and State agencies to adopt implementing ordinances and rules (to the extent they agreed using a recorded vote as part of the planning unit approval process). However, this requirement does not supersede the

normal procedures of adopting rules and ordinances. The Watershed Management Act does not require other entities to adopt provisions of the plan or take other implementing actions. This manual suggests that formal agreements such as Memoranda of Agreement be used to bind all implementing parties to the commitments they voluntarily agree to during approval by the planning unit.

Implementation

In order for watershed management to be successful, it is vital that all aspects of implementation are considered from the start. The planning process suggested in this manual includes design of an implementation program, formal agreements committing those organizations that accept implementation responsibilities, and consideration of an “implementation committee” within the planning unit structure.

Clearly funding resources will be one of the key aspects of implementation. Watershed planning embraces a variety of programs that are already funded, in part, by State and federal grants and loans. At this time, however, neither the federal government nor the legislature have established funding mechanisms specifically geared towards watershed management. Exhibit ES-7 identifies potential sources of funding, both for planning in the short-term, and watershed management in the long-term. This figure is only meant to be suggestive of potential sources, since the proportions of funding available from different sources will vary widely.

As shown in the lower half of Exhibit ES-7, in order for locally-based watershed management to be effective, it is likely that local funding sources will be necessary for a large share of costs. In many cases, funds that are already collected by cities, counties, utilities, and tribes support management activities that essentially represent watershed management, or can be brought into the watershed plan framework with only minor adjustment. However, to a large extent, new sources of local money may be required to establish an effective watershed management program. Establishing these funding sources can be made easier to the degree that the watershed planning process fully engages the public in a discussion of problems, issues and opportunities.

Further Development of Watershed Planning Techniques

The five associations of local governments that undertook production of this manual, together with the Department of Ecology which funded the manual, plan to re-visit the contents of this document in 1999. This will provide an opportunity to learn from those local planning units that have already received grant funds and are engaged in the planning process. Suggestions for improvements and additional techniques in watershed planning are welcome, and can be directed to any of the members of the Steering Committee listed at the front of this manual.

Section 1

Introduction

1.1 Purpose of Manual

Diminishing water availability and quality, and the loss of critical habitat for fish and wildlife are key issues facing the State of Washington. Our State depends on reliable supplies of clean water to support growing communities, restore our fisheries resources, and provide for agricultural production. In order to move forward on increasingly critical water issues, citizens, interest groups, and government agencies will need to develop new, more collaborative ways of solving problems.

The 1998 Legislature passed Engrossed Substitute House Bill 2514 (The Watershed Management Act) to provide a framework to collaboratively solve water related issues (see Appendix A for full text of the Bill and Box on page 1-2 for a summary). It, along with the associated grants program, is designed to allow local citizens and local governments to join together with tribes and State agencies to develop watershed management plans for entire watersheds. This framework is based on geographic areas known as Water Resource Inventory Areas (WRIAs), or watersheds. Locally established “planning units” are to assess each WRIAs water supply and use, and recommend strategies for satisfying water supply needs. In addition, there is also the opportunity for local planning units to address the closely related issues of improving water quality, protecting and enhancing fish and wildlife habitat, and, in collaboration with the Department of Ecology (Ecology), to set instream flows.

This approach toward comprehensive watershed planning and management can help develop information and build agreement that will support economic growth and promote water availability and quality throughout our State. Watershed planning can also contribute to protection of our fisheries and the health of our natural environment. This planning effort is a potentially powerful tool for informed local decision-making, breaking the water resources gridlock, and developing a comprehensive approach to managing water resources into the next century.

The Watershed Management Act is relatively non-prescriptive in terms of both procedural and substantive requirements. Within broad constraints, local governments and tribes that proceed with watershed planning have considerable flexibility to determine the planning process, focus on areas or elements of particular importance to local citizens, assess water resources and needs, and recommend management strategies.

This manual is intended to offer suggestions for navigating the planning process with a clear view towards achieving the goals of each local planning unit. The approaches outlined are voluntary, and it is anticipated that each planning unit will use elements of this manual as they deem appropriate. This manual represents a “first cut” at many of the difficult issues involved in collaborative watershed planning. It is expected that this manual will be updated and refined

over time to more fully convey not only the technical aspects of watershed planning, but also how to effectively engage participants in making the critical values tradeoffs at the heart of the watershed planning process.

Purposes of the Watershed Management Act
<i>The purpose of [the Watershed Management Act] is to develop a more thorough and cooperative method of determining what the current water resource situation is in each water resource inventory area of the state and to provide local citizens with the maximum possible input concerning their goals and objectives for water resource management and development. It is necessary for the legislature to establish processes and policies that will result in providing state agencies with more specific guidance to manage the water resources of the state consistent with current law and direction provided by local entities and citizens through the process established in accordance with this chapter. (RCW 90.82.005)</i>
<i>The legislature finds that the local development of watershed plans for managing water resources and for protecting existing water rights is vital to both state and local interests. The local development of these plans serves vital local interests by placing it in the hands of people: Who have the greatest knowledge of both the resources and the aspirations of those who live and work in the watershed; and who have the greatest stake in the proper, long-term management of the resources. The development of such plans serves the state's vital interests by ensuring that the state's water resources are used wisely, by protecting existing water rights, by protecting instream flows for fish, and by providing for the economic well-being of the state's citizenry and communities. Therefore the legislature believes it necessary for units of local government throughout the state to engage in the orderly development of these watershed plans. (RCW 90.82.010).</i>

1.2 Background on Manual Development Process

This project was initiated by a group of five local government associations:

- ☐ Association of Washington Cities (AWC)
- ☐ Washington Public Utility District Association (WPUDA)
- ☐ Washington Sewer and Water District Association (WSWDA)
- ☐ Washington State Association of Counties (WSAC)
- ☐ Washington State Water Resources Association (WSWRA)

Ecology provided funding to AWC to complete the manual using administrative funds provided by the legislature. All parties agreed to structure the effort so as to encourage broad-based participation as the manual was being developed.

At the invitation of the five associations, State agencies and tribal representatives also contributed to the development of the manual.

Representatives of the five associations, together with a representative from Ecology, formed a Steering Committee for the project. A Technical Committee and a Policy and Implementation Committee were then formed to develop the contents of the manual. These committees included approximately 20 representatives of local governments and special districts, tribes, and State agencies, including the Departments of Ecology, Health (DOH), Fish and Wildlife (DFW), and Community, Trade and Economic Development (CTED).

1.3 What is a Watershed Plan?

The Legislature did not provide a prescriptive definition of a watershed plan, but instead provided broad latitude to locally-based planning units. During the working sessions among 25 representatives of cities, counties, special districts, and State agencies who joined in developing this manual, a vision of a hypothetical watershed plan was developed. As an aid to stimulating discussion among participants in watershed planning, this vision is outlined as follows:

- ☐ The plan must address the entire watershed (WRIA or group of WRIs);
- ☐ This plan should address providing for existing and future instream and out-of-stream needs;
- ☐ An approach to defining water availability;
- ☐ Guidance for clarifying the “public interest” for the purposes of water rights decisions in the watershed. While the Watershed Planning Act does not provide specific authorization in this regard, the type of inclusive public process envisioned in the law would appear to provide one of the best available methods of achieving consensus on what “public interest” should mean in the context of water rights decisions;
- ☐ Identification and analysis of the key water resources problems and issues in the watershed, together with strategies and mitigation options for addressing them;
- ☐ Identification and analysis of alternative solutions using the full range of watershed management tools. A set of “interim” or “conditional” strategies may be developed, with the recognition that the Watershed Management Program will permit modification of strategies over time;
- ☐ An assessment of the amounts of surface and groundwater physically and legally available for both instream and out-of-stream uses in the management area, taking into account existing water rights, claims, treaties, and other commitments, including seasonal and drought-induced variations;
- ☐ If desired, an assessment of information related to water quality issues, habitat issues, and minimum instream flows;
- ☐ Conformance with applicable laws, treaties, water rights, and other commitments;

- ☐ Legal authorities serving as a foundation for recommended actions, in addition to the Watershed Management Act itself;
- ☐ Development of a water resources management program that can be sustained over time and can respond to changing conditions, new information, and evolving public priorities. This program may include a process for coordinated decision-making among the organizations designated for plan implementation;
- ☐ A long-term process for resolving disagreements over competing uses of water in the watershed, while addressing the public interest and respecting the framework of existing laws and obligations;
- ☐ Clear assignment of responsibilities for management actions, including careful assessment of funding and staffing needs. Obligations cannot be created without full agreement of the parties designated; and,
- ☐ A long-term system for acquiring new information on key issues and trends in key water resources parameters. As new information is collected, it can be used to modify the management program.

The Watershed Management Act: An Overview	
<input type="checkbox"/> A voluntary Process	<input type="checkbox"/> State agencies may be invited.
<input type="checkbox"/> Purpose: to increase local involvement in decision-making and planning for water resources.	<input type="checkbox"/> Plan must address Water Quantity. May address Water Quality, Habitat, and Minimum Instream Flows.
<input type="checkbox"/> State grants available (up to \$500,000 per Water Resource Inventory Area or WRIA). Planning Areas must include one or more complete WRIA.	<input type="checkbox"/> Plan must be consistent with existing laws, treaties, water rights, habitat restoration programs, and other commitments; but may recommend changes in certain cases.
<input type="checkbox"/> "Initiating Governments" specified in the law initiate process and form "Planning Units" to develop the plan. Planning units must be broadly representative of local governments and water resource interests. Public involvement required in process.	<input type="checkbox"/> No government, agency, or organization is bound by plan unless it voluntarily commits to plan provisions.
<input type="checkbox"/> Tribes with reservation lands must be invited to join the initiating process. If new or revised Minimum Instream Flows are recommended, Ecology must also consult with "affected" tribes.	<input type="checkbox"/> Four-year time limit between Phase 2 Grant and submittal of plan to Counties.
	<input type="checkbox"/> County legislative authorities have final say on plan approval.

1.4 Short-term and Long-term Considerations for Watershed Management

The procedure established in the Watershed Management Act has a four-year time limit for completion of the watershed plan and submittal for adoption. However, depending on the circumstances in each management area, both short-term and long-term frameworks for planning should be considered.

The planning approach envisioned in this manual recognizes that, in the short-term, many decisions on water resources will continue to be made even while the planning process is underway. Therefore, in many management areas it may be preferable to rely primarily on existing data to develop the initial watershed plan. Whether the plan is completed in four years or some lesser period, effective management strategies may include interim or conditional recommendations for the short-term, coupled with a long-term process allowing for revised management strategies as new information is collected and new public priorities emerge. Planning units may wish to consider whether interim recommendations are appropriate even prior to plan approval, while recognizing that such recommendations do not carry the significance of an approved watershed plan.

In the long-term, the organizations which join together in each Watershed to undertake planning and management should be prepared to invest time and energy to ensure the process can be sustained. Moreover, although the State is currently providing funding through a grants

program, organizations should recognize that State monies currently allocated will not be sufficient to support a long-term management process. Therefore, the investment by local governments and organizations in each Watershed will also require funding sources to provide for implementation of monitoring, decision-making and management actions over the long-term.

1.5 Techniques for Reaching Agreement

Reaching agreement among the varied participants who join the watershed planning process will be no easy matter. One of the best techniques for moving the process forward is to draw a clear distinction between disagreements over facts and disagreements based on values.

This manual offers an optional approach to technical basin assessment that is designed to help the planning unit reach agreement on technical data and findings first, so discussion can focus on more difficult issues involving values. The approach includes use of a Technical Analysis Protocol (TAP) prior to commissioning studies or collecting data; and the use of a Technical Validation Process (TVP) in which a technical panel advises the planning unit as to the validity and adequacy of technical information to support clearly defined objectives. These techniques are not specified in the Watershed Planning Act, but are offered in this manual as potentially valuable tools.

1.6 Purposes, Limitations and Procedural Requirements of the Watershed Management Act

The Watershed Management Act, as signed into law, amended and expanded the State's Water Resources Management statute, contained in Revised Code of Washington (RCW) 90.82. The text of the law provides both broad guidance as to the purposes of watershed planning and principles underlying the procedural requirements. As local governments and Indian tribes embark on local watershed planning programs and seek State grants to support them, these purposes and principles should receive full consideration.

1.6.1 Purposes

The first two sections of RCW 90.82 offer statements of the Legislature's overall intent with respect to watershed planning. Because of the importance of maintaining a vision of the overall purposes of watershed planning throughout the process, these two sections are quoted in full in the box on page 1-2.

1.6.2 Limitations on Planning Activities

The Legislature also included a section that addresses limitations on the activities authorized. These are presented in the box below:

**Limitations on Watershed Planning Under
the Watershed Management Act (RCW 90.82.120)**

- | | |
|--|--|
| <ul style="list-style-type: none"> <input type="checkbox"/> Plan provisions cannot conflict with existing statutes or tribal treaty rights; <input type="checkbox"/> Existing water rights (claims, permits, and certificates) cannot be impaired or diminished; <input type="checkbox"/> The plan cannot require modifications in the operations of a federal reclamation project with water rights pre-dating the law, and cannot alter the quantity of water available to such a project; <input type="checkbox"/> The plan cannot affect or interfere with an ongoing general adjudication of water rights; <input type="checkbox"/> The plan cannot modify or require the modification of a waste discharge permit; <input type="checkbox"/> The plan cannot modify or require modification of wild salmonid recovery activities developed under the Salmon Recovery Act (see Appendix B) | <ul style="list-style-type: none"> <input type="checkbox"/> The plan cannot modify or require modification of habitat enhancement activities that are a) part of an approved habitat conservation plan, incidental take permit, incidental take statement; or other cooperative or conservation agreement involving a State or federal agency; or b) part of a water quality program adopted by an irrigation district under chapter 87.03 RCW or a board of joint control under 4 chapter 87.80 RCW. <input type="checkbox"/> The plan cannot change existing local ordinances or existing state rules or permits (but may contain recommendations for changes); <input type="checkbox"/> The plan must take into account forest practices rules under RCW 76.09 and cannot create obligations or restrictions on forest practices additional to or inconsistent with the forest practices act and its implementing rules. |
|--|--|

1.6.3 Procedural Requirements

The law establishes procedural requirements for planning under the watershed planning program. Broad guidance serving as a foundation to the procedural requirements is presented in two sections of the law. First, the law establishes “principles,” affecting local governments engaged in the planning process. These are:

- ☐ All planning units must develop a process that provides “water resource user interests and directly involved interest groups at the local level” with an opportunity to provide input and direction to the process, in a fair and equitable manner.
- ☐ Watershed plans must be consistent with, and not duplicative of, ongoing efforts in each WRIA (90.82.030).

In addition, the section of the law which deals with initiation of the process offers an overview of the process:

Planning conducted under this chapter must provide for a process to allow the local citizens within a WRIA or multi-WRIA area to join

together in an effort to: (a) Assess the status of the water resources of their WRIA or multi-WRIA area; and (b) determine how best to manage the water resources of the WRIA or multi-WRIA area to balance the competing resource demands for that area.... (The Watershed Management Act, Section 2)

Under the program established in 1998, State grants to support watershed planning are administered in three phases which clearly track with the purposes and principles laid out above:

- Phase 1: Organization of the Planning Unit
- Phase 2: Conducting Watershed Assessments
- Phase 3: Developing a Watershed Plan and Making Recommendations for Water Resources Management Actions

1.7 Relationship to Concurrent Planning Processes

One of the most important challenges local governments and tribes face in planning under the Watershed Management Act is integration with myriad regulatory requirements and concurrent planning processes already underway within each WRIA. Planning units will need to grapple with these early on in the planning process in order to ensure consistency with related activities.

1.8 Manual Organization

The remainder of this manual is organized as follows:

- ☐ Section 2 addresses Phase 1 activities such as initiation of planning under the Watershed Management Act, organization of the planning unit, and approaches to administering the process.
- ☐ Section 3 continues with Phase 1 and discusses scoping, establishing a data management system, public involvement, and budgeting.
- ☐ Section 4 addresses the process of technical assessment of water resources and demands in each WRIA, which comprises Phase 2 of the grants program.
- ☐ Section 5 identifies data sources and technical resources available to local governments to assist in watershed planning.
- ☐ Section 6 addresses data management and access.
- ☐ Section 7 outlines approaches to developing the watershed plan itself, including identification of short-term and long-term management strategies.

- ❑ Section 8 covers the review and adoption process established by the Watershed Management Act.
- ❑ Section 9 describes approaches to implementing and financing Watershed Management over the long-term.
- ❑ Section 10 provides a brief review of the entire planning process from start to finish.
- ❑ Finally, Section 11 examines several topics of particular interest, such as listings under the federal Endangered Species Act, compliance with the State Environmental Policy Act (SEPA), tribal reserved rights, and the particular circumstances affecting planning in basins that discharge to the Columbia River.

Section 2

Initiating Planning and Getting Organized (Phase 1)

This section discusses the formal process for initiating watershed planning under the Watershed Management Act, organizing the planning unit, and developing a process for public participation (Initiating and Phase 1 of the grants program). Taken together, these items determine who participates and what the ground rules will be. Remaining aspects of Phase 1, such as determination of the plan's scope and development of a work plan for achieving planning objectives, is covered in Section 3 of this manual.

2.1 Potential Benefits and Challenges of Using the Watershed Management Act Process

2.1.1 Potential Benefits

Participation in the Watershed Management Act is purely voluntary. Therefore, the first decision any local government or tribe has to make is whether to participate at all. The answer to this question will likely vary from place to place, and among the potential participants within each Water Resource Inventory Area (WRIA). However, some of the potential benefits of the Watershed Management Act are:

Basis in Law. The program's statutory basis will lend added weight to the management program that is developed for each management area.

Advancement of Local Priorities. The Watershed Management Act permits local governments, citizens, and tribes within each WRIA to jointly establish local priorities for water resource management, as long as the resulting program is consistent with certain legal requirements. Each potential participant should consider whether the Watershed Management Act offers a greater opportunity for advancement of priorities, compared with the available alternatives.

Improved decision-making. The broader understanding of watershed needs and issues developed through a watershed planning process can foster improved decision-making by local governments, State agencies, and the federal government.

Increased Predictability of Water-Resource Decisions. Watershed planning may offer local governments the best tool available for increasing predictability in terms of State and federal decisions. State and federal agencies, as well as the courts, may view water resource programs that are consistent with Watershed Management Act Plans more favorably than proposals that are not based on similar planning efforts.

State Commitment to Coordinate Agency Involvement. In response to the Watershed Management Act, State agencies with natural resource responsibilities are developing an agreement that will facilitate coordination of their involvement. Under the agreement, State agencies may jointly select an agency to serve as the State lead in working with the planning unit. This offers the potential of improving coordinated decision-making among local, tribal, and State representatives.

Access to Watershed Planning Grants. Currently, State grants of up to \$500,000 per WRIA are available to support watershed planning. This amount will likely be inadequate to fully fund the procedural and assessment activities needed in many WRIs. Nonetheless, the availability of State money for local planning initiatives represents a valuable contribution, particularly in those areas where planning activities are viewed as essential with or without the State funding.

Response to Endangered/Threatened Species Listings. For areas facing federal listings of endangered or threatened fish species, the Watershed Management Act Plans can provide a valuable input to recovery planning. A Watershed Plan can provide the type of assurances of coordinated recovery actions that are likely to be required by the federal government, and can assist in defining a broad framework for parties engaged in prioritization of recovery projects. The sense of urgency associated with salmon recovery planning may be a key driver in supporting rapid development of a watershed plan as well.

Instream Flow Modification. The law provides a process for requesting the Department of Ecology (Ecology) to either modify adopted minimum instream flows, or set new minimum instream flows for streams that do not currently have them. The Watershed Management Act provides a special opportunity for the planning unit to work with Ecology on instream flows.

Guidance for State TMDL Process. Ecology has developed a program for setting Total Maximum Daily Loads (TMDLs) for surface waters listed as water-quality limited under Section 303(d) of the Clean Water Act. Watershed planning can provide opportunities for citizens and local governments to offer input into how the TMDL process fits into the broader context of watershed priorities.

Time Limits. The Watershed Management Act establishes a four-year window for delivering an approved plan to county governments for adoption. The four-year period begins when a Phase 2 grant is issued. Once the process has begun, there is no statutory mandate that it be completed; however, the time limit provides an incentive to participants to proceed expeditiously.

2.1.2 Potential Challenges

In addition to considering the potential benefits listed above, organizations considering the watershed planning process should be mindful of the potential challenges involved.

Funding. State grant funding may be inadequate to produce and implement a viable plan. In this case, participants may need to contribute funds to the planning process.

Related Processes. In other cases, organizations may judge that watershed planning cannot provide benefits until other processes have run their course, since significant changes will affect the context for planning.

Time Limits. The four-year time period, which begins when a Phase 2 grant is received, may prove limiting to Planning Units.

It should be recognized that the Watershed Planning Act is not the sole means for citizens and local governments to address water resources issues. In some cases, organizations may find that the watershed planning process does not provide the best vehicle for solving the particular problems they face. Other approaches and planning processes may be more appropriate in these cases. The Watershed Planning Act is an “enabling” act that does not require participation. Citizens and local governments remain free to choose the best approach to resolving the issues they face.

2.2 Initiating the Process

The Watershed Management Act lays out a prescribed process for initiating watershed planning. A group of “initiating governments” makes the first move to organize and apply for state grant funds. The initiating governments have a special role to play up-front in initiating the process, establishing the overall scope of planning, and determining the composition of the planning unit. Without the concurrence of every initiating government (except tribal governments), planning cannot proceed under the terms of the Watershed Management Act. The law requires that “initiating governments shall work with State government, other local governments within the management area, and affected tribal governments, in developing a planning process.”

Apart from these three activities, initiating governments represented on the planning unit have exactly the same roles and responsibilities as other governmental members of the planning unit. For example, the full planning unit ultimately has the authority to approve the watershed plan for adoption through the approval process described in the law. At the approval stage, an Initiating Government’s vote counts no more, and no less, than the vote of any other governmental member of the planning unit.

2.2.1 Defining the Management Area

The geographic extent of the management area plays a role in determining which organizations are designated as initiating governments. Therefore, this topic is considered first.

The law provides for management areas to be defined on the basis of Water Resource Inventory Areas (WRIAs) (see Exhibit 2-1). However, a management area can consist of either a single WRIA or a group of WRIAs. Several considerations may come into

play in determining whether a single-WRIA or multi-WRIA area would best serve local needs. These include:

- ☐ The degree of physical interconnection among streams in the management area. For example, several river basins in the State are divided into more than one WRIA (e.g. Chehalis, Snake, Spokane, among others). In these cases, management actions in the upstream WRIA will directly affect water resources in the downstream WRIA. In other cases, a single WRIA stands completely alone in terms of physical relationships with other WRIsAs.
- ☐ The likely success of cooperative decision-making among local governments in the management area.
- ☐ Regulatory programs, such as the Endangered Species Act, that create an impetus for joint actions (e.g. within an “Evolutionarily Significant Unit”).
- ☐ The law’s preference criteria for State grants. There is a higher preference assigned to funding of multi-WRIA management areas over single-WRIA management areas.
- ☐ Some management areas may be in basins that extend across state boundaries into Oregon, Idaho, Montana, or British Columbia. In these cases, careful consideration should be given to how this affects planning and ultimate implementation of a watershed plan.

2.2.2 Initiating Governments

The Watershed Management Act specifies “Initiating Governments” for each Management Area (i.e. a WRIA, or a group of WRIsAs). These Initiating Governments are as follows:

1) For a Management Area Consisting of a Single WRIA:

- ☐ All counties containing territory within that WRIA;
- ☐ The largest city or town within the WRIA (unless there is no city or town in the WRIA);
- ☐ The water supply utility obtaining the largest quantity of water from the WRIA (“water supply utility” is defined at RCW 90.82.020 as “a water, combined water- sewer, irrigation, reclamation, or public utility district that provides water to persons or other water users within the district or a division or unit responsible for administering a publicly governed water supply system on behalf of a county.” Thus a city or town water system does not count as a utility for purposes of determining the Initiating Governments. Ecology has interpreted “largest quantity of water” as the largest annual quantity used during the previous calendar year.); and,
- ☐ All tribes with reservation land within the WRIA (See Exhibit 2-2).

2) For a Management Area Consisting of More Than One WRIA:

- ☐ All counties containing territory within the multi-WRIA management area;
- ☐ The largest city or town within each WRIA in the management area (unless there is no city or town in one or more of the WRIs);
- ☐ The water supply utility obtaining the largest quantity of water from each WRIA in the management area (see note above on the meaning of “water supply utility”); and,
- ☐ All tribes with reservation land within the WRIs (See Exhibit 2-2).

Watershed planning cannot be initiated under the Watershed Management Act without the concurrence of all of the initiating governments listed above, except the Indian tribes. Unlike the other initiating governments, Indian tribes’ concurrence is not required in order for planning to proceed. However, the law requires the county, city, and utility initiating governments to invite all tribes with reservation lands within the management area to join the process as initiating governments.

The Act does not require that all of the initiating governments participate actively in the planning process; it requires only that they “concur” with initiation of the process. Ecology accepts a letter from each initiating government as evidence of concurrence. If tribes have not accepted the invitation to serve as initiating governments at the time an application for grant funding is submitted, Ecology accepts a letter inviting each tribe with reservation lands as evidence that this requirement has been met.

Upon documentation of concurrence and issuance of an invitation to tribes, the initiating governments can select a lead agency and apply to Ecology for a watershed planning grant during a funding cycle. The initiating governments (including tribes that have elected to join the process) can then proceed with organizing the planning unit and establishing the planning process. This includes:

- ☐ Determining the composition of the planning unit;
- ☐ Determining the number of State agency representatives on the planning unit (in consultation with the Governor’s Office); and,
- ☐ Developing a proposed Scope of Work. This is not defined in the law, but appears to indicate selection of optional elements (Instream Flows, Water Quality, and Habitat) to be addressed along with the required Water Quantity element (see Section 3 of this manual).

2.2.3 Application Process and Criteria for Awards

Ecology has been designated as the agency with responsibility for administering the watershed planning grants program. The Legislature provided specific guidance to Ecology in evaluating grant applications. First, applicants for grant funding must meet certain threshold requirements, as follows:

- ☐ They must meet all of the requirements of the Watershed Management Act, such as concurrence by the local initiating governments and an invitation to tribes with reservation lands in the management area;
- ☐ They must demonstrate a need for State planning funds;
- ☐ They must demonstrate a readiness to proceed.

Assuming these threshold requirements are met, Ecology is directed to give preference to applications in order of the following priorities:

1. Planning Groups that have existed for at least one year are given preference over all other applications. Ecology has interpreted this broadly to include planning groups that have a different makeup than a planning group established under the Watershed Management Act. For example, if a watershed committee has been active in the WRIA for at least one year, this criterion would be considered to be met, even if the membership of that committee differed from the proposed Watershed Management Act planning group.
2. “Applications that address protection and enhancement of fish habitat in watersheds that have aquatic fish species listed or proposed to be listed as endangered or threatened under the federal endangered species act, and for which there is evidence of an inability to supply adequate water for population and economic growth,” are favored over applications that do not meet this criterion. Under this item, multi-WRIA management areas are favored over single-WRIA management areas.
3. “Applications that address protection and enhancement of fish habitat in watersheds or for which there is evidence of an inability to supply adequate water for population and economic growth,” are favored over applications that do not meet this criterion. Under this item, multi-WRIA management areas are also favored over single-WRIA management areas.

Ecology is specifically directed to avoid using any other criteria in evaluating grant applications, such as rules, policies, guidelines, or local matching funds. Under the law, the criteria specified above are the sole criteria for evaluating grant applications.

2.2.4 Lead Agency

The Watershed Management Act does not specify what types of organizations may serve as the lead agency for receiving and administering grant funds. The lead agency could be one of the initiating governments, a different governmental or non-governmental organization, or a brand-new organization formed specifically for the purposes of watershed planning.

In addition, the law does not contain specific requirements for the role played by a lead agency, other than receiving the grant funds for the purposes of watershed planning. Therefore, planning units can determine for themselves whether the lead agency will

simply act to channel grant money to appropriate uses, or play a more significant role in managing the planning process.

2.3 Forming the Planning Unit

As indicated above, the initiating governments have the responsibility of designating membership of the planning unit. This represents a critical step in the Watershed Management Act process, since the planning unit has the authority to approve or disapprove the watershed plan for submittal to the county legislative authorities (although it cannot create obligations for entities that are not represented on the planning unit and do not voluntarily accept obligations). Rather than providing a tightly prescriptive approach to forming the planning unit, the law gives the initiating governments broad latitude in this matter. However, principles of consultation and inclusiveness are clearly established in the law:

- ☐ Initiating governments must “work with state government, other local governments within the management area, and affected tribal governments, in developing a planning process” (note that “affected” tribal governments may include tribes that do not have reservation lands in the management area, such as those with treaty reserved fishing rights).
- ☐ “In developing a proposed composition of the planning unit, the initiating governments shall provide for representation of a wide range of water resource interests.”

In addition, the law states that initiating governments may hold public meetings, to discuss composition of the planning unit and the scope of work.

2.3.1 Factors to Consider in Appointing Planning Unit Members

The process and factors weighed in selecting representation on the planning unit may vary substantially depending on the particular circumstances in each watershed. Initiating governments may wish to consider the following factors in establishing the planning unit:

- ☐ Range and extent of water resource interests in the management area;
- ☐ Balancing of interests under the approval process established in the law. The plan can be approved either by a consensus among all representatives, or by a consensus among all governmental representatives, and a majority vote among all non-governmental representatives;
- ☐ Importance of various players in implementing plan elements;
- ☐ Relationship to previous or existing watershed planning efforts outside the Watershed Management Act;
- ☐ Priorities for addressing various issues in the management area (e.g., urban water quality, irrigation requirements, endangered species, hydropower, urban growth);

- ☐ Ability to represent selected interests or groups, and to persuade their “constituents” to make difficult choices if necessary;
- ☐ Authority of individual representatives to speak for their organizations and commit to agreed-upon courses of action; and,
- ☐ Possible inclusion of members from outside Washington, in those basins that extend into Oregon, Idaho, or British Columbia.

As noted above, the Watershed Management Act does not specify the composition of the planning unit. In a typical WRIA, a sampling of organizations that might be considered for membership on the planning unit could include (but is not limited to):

- ☐ Additional cities, water utilities and/or irrigation districts, besides those designated as initiating governments;
- ☐ State agencies such as the Department of Ecology, Department of Fish and Wildlife, Department of Agriculture, Department of Health, etc.;
- ☐ Sewer districts, conservation districts, flood control districts, and other local governmental or quasi-governmental organizations;
- ☐ Federal agencies such as the Bureau of Reclamation, Army Corps of Engineers, Forest Service, etc.;
- ☐ Tribes with treaty fishing rights within the WRIA (note: this is distinct from tribes with reservation lands, which must be invited to serve as initiating governments)
- ☐ Citizen representatives appointed to represent the public at large;
- ☐ Representatives of private landowners;
- ☐ Business interests such as developers, builders, the timber and forest products industries, the shellfish industry, chamber of commerce, major local industrial or commercial facilities, etc.;
- ☐ Representatives of farmers and/or ranchers;
- ☐ Recreation interests such as anglers’ organizations, whitewater rafters, etc.;
- ☐ Environmental organizations;
- ☐ Existing watershed councils or similar organizations;

This listing is necessarily incomplete, and may vary widely from one WRIA to another. As noted above, it is important to recognize the difference between governmental and

non-governmental members in the process for plan approval established by the Watershed Management Act (see Section 2.3.1).

In some cases, it may be desirable to include certain organizations as *ex officio* members, who can participate on the planning unit but do not have a vote in approving the watershed plan. It is important to recognize that the Watershed Management Act requires that plan approval include either a consensus among all members, or a consensus among all members appointed to represent units of government and a majority vote of the remaining members. This could result in reluctance to appoint members representing organizations whose input is important, but who may not have a direct role in water resource management or responsibilities for ultimate implementation of the watershed plan. The Watershed Management Act neither requires nor prohibits *ex officio* membership. Appointment of *ex officio* members could allow the planning unit to incorporate additional members to facilitate their input, without creating an unnecessarily cumbersome process for approval of the watershed plan. Members from the list above, as well as many other organizations, could be considered for *ex officio* status.

2.3.2 Use of Inter-local Agreements in Planning Unit Formation

An inter-local agreement such as a Memorandum of Agreement (MOA), Memorandum of Understanding (MOU), or other instruments may aid in either initiating the planning process or structuring planning units. Examples of inter-local agreements that address both initiation and planning unit formation and organization are included in Appendix C.

The following elements are suggested for the planning unit to consider in developing an inter-local agreement:

- ☐ Definition of the WRIA or WRIs to be included in the management area;
- ☐ Overall goals of watershed planning for the area defined;
- ☐ Limitations on watershed planning for the area defined, including limitations on establishing “obligations” under the law;
- ☐ Respective roles of initiating governments, lead agency, and planning unit members;
- ☐ Formal process and criteria for designating planning unit members, and/or planning unit roster;
- ☐ Ground rules for participation and decision-making, including determination of types of decisions requiring participation of the full planning unit, and types of decisions for which authority can be delegated to committees, the lead agency, etc.;
- ☐ Scope of planning, or a process for defining the scope;

- ☐ Approach to staffing, project management, and scheduling authority to keep the process on track within the time limitations established in the law;
- ☐ Cost-sharing obligations, in-kind contributions, and “latecomers” provisions, if applicable; or acknowledgement that activities will be funded entirely through grants;
- ☐ Committee structure, and procedures for modification;
- ☐ Process for defining and achieving consensus;
- ☐ Objectives and procedure for developing public involvement process;
- ☐ Procedures for modifying elements of the agreement, such as altering the scope of planning, changing the lead agency, adding members to the planning unit, etc.; and,
- ☐ Duration of the agreement.

Careful consideration of these elements at the outset of the planning process can assist the planning unit in working through the many difficult aspects of planning in a smooth and efficient fashion. If appropriate, it may be helpful to begin with a more general agreement covering initiation of planning and facilitating the grant application. A more detailed agreement addressing procedures for the various phases of planning can then be developed after the process has been initiated.

There are additional points in the planning process where inter-local agreements may prove valuable. These will be covered in subsequent sections of this manual (see Section 9.1).

2.4 Organization of the Planning Unit

2.4.1 Participants’ Roles and Staffing

By and large, the Watershed Management Act offers considerable flexibility to participating governments and non-governmental organizations in terms of entering the process, participating over the course of planning, and implementing Watershed Management actions. Exhibit 2-3 depicts roles and responsibilities of participants.

Organizations who choose to join the planning process will bring different resources and capabilities to the table. Those organizations with a significant stake in water resource decision-making and adequate staff and funding may choose to contribute in-kind resources such as staff time, technical expertise, equipment, or funding to supplement the State watershed planning grant.

The planning unit may consider the use of grant funds to hire dedicated staff or professional services providers to serve the entire planning unit, perhaps under the

direction of the lead agency. Grant funding of additional staff or contract service providers to serve particular planning unit members or groups of members could also be considered and weighed against alternative uses of those funds.

2.4.2 Roles for State and Federal Agencies

Two distinct roles may be considered for State and federal agencies:

- ☐ Participation on the planning unit
- ☐ Technical assistance to the planning unit

Agencies may fulfill both of these roles simultaneously. The law directs initiating governments to consult with the Governor's office on State agency representation. Information on contacting the Governor's Office is included in Appendix D. Prior to formally inviting agency representation, it may be valuable to hold an informational meeting with agency representatives to discuss potential roles in the planning process.

State agencies may agree to designate a lead representative to speak for all participating State agencies. Twelve State agencies have signed a MOU (see Appendix E) that clearly defines the State's roles and responsibilities in supporting watershed planning and salmon restoration efforts under the Watershed Management Act and the Salmon Recovery Act.

The law provides that State agencies who sit on the planning unit can be obligated by the watershed plan, as long as they vote for specific provisions that obligate their agencies and do not violate State law. On the other hand, if a State agency is not represented on the planning unit, the watershed plan cannot create binding obligations for that agency. The law provides for State agency representation to be determined by the initiating governments, in consultation with the Governor's Office.

It may be valuable to include certain federal agencies on the planning unit as well. Inclusion on the planning unit makes it more likely that a federal agency will respect provisions of the watershed plan, or implement programs consistent with plan objectives. The reverse is also true: inclusion of federal agencies will help the planning unit ensure plan consistency with federal law, policies, and programs.

The law also requires that State agencies, if requested by the planning unit, must provide technical assistance, within fiscal limitations. This requirement holds, regardless of whether a state agency is represented on the planning unit. Certain federal agencies may also be in a position to provide technical assistance, under a variety of existing programs.

2.4.3 Roles for Private Service Providers

The planning unit may consider the use of grant funds to enter into contracts with professional service providers. For example, management of the consensus-based

process can be assisted by bringing in a neutral facilitator. Review of technical data and collection of new data can be performed by private firms with appropriate technical expertise. Depending on the specific circumstances, use of private service providers may also offer a cost-effective means of staffing the planning process, managing communications within the planning unit, managing public involvement activities, and writing the watershed plan itself. In other cases, staff associated with planning unit members, or outside public-sector organizations may be well suited to carry out some or all of these activities.

In many cases, consideration of using more than one service provider to play different roles in the process (e.g. facilitation, technical analysis, plan development) may be appropriate. In other cases, the use of a single lead firm may be more practical to assure consistency and accountability.

2.4.4 Organizational Structure and Project Management

The law does not set requirements for organizational structure and management of the planning unit. Since the lead agency is ultimately accountable for proper use of grant funds, it is anticipated that the lead agency will need adequate controls over expenditures and work products. If additional funds are contributed to the process from other sources, those sources would also have a legitimate interest in managing expenditures.

One approach to organizational structure would be for the planning unit to act as a Board of Directors for decision-making, and to designate a committee or specific member organization to act in the capacity of manager and staffing the process. In this case the designated organization, at the planning unit's direction, would oversee scheduling and communications, the public involvement process, studies performed by outside consultants or organizations, data storage and retrieval, and production of the watershed plan. The planning unit or designated organization may also find it convenient to assign responsibility for day-to-day management of certain specialized functions or studies to specific additional organizations represented on the planning unit.

2.4.5 Optional Committees

The planning unit may wish to consider designation of committees to undertake a variety of key assignments. The committees listed below are not derived from the Watershed Planning Act, but are offered herein as suggestions to assist planning units.

Steering Committee

The planning unit may find it helpful to designate a Steering Committee, with the responsibility of keeping the planning process on schedule and within budget. A Steering Committee may be useful in guiding the lead agency, as well as agencies identified for technical assistance and private sector firms providing professional

services. A Steering Committee is likely to be particularly useful in cases where the planning unit itself is too large to meet frequently or perform day-to-day managerial functions.

Implementation Committee

It is suggested that the planning unit consider forming an “Implementation Committee” with the assignment of assessing the implementability of plan alternatives. By including representatives of those organizations that are expected to be responsible for long-term funding and implementation, the Implementation Committee can also help lay the foundation for approval and adoption of specific plan elements by those organizations. Like other committees, the Implementation Committee would report to the planning unit as a whole. In the long-term, the planning unit may consider designating the Implementation Committee for ongoing monitoring of plan implementation, periodic reporting to the planning unit or appropriate governmental authorities such as county legislative bodies, or other functions intended to ensure accountability in carrying out the Watershed Plan (see Section 9.2.)

Other Committees

In addition, the planning unit may find it convenient to establish committees to investigate and report on particular issues within the overall scope of the project. Such issues might include water supply status, water rights status, groundwater/surface water continuity, non-point source water quality issues, water utility infrastructure, fish and wildlife habitat issues, relationship to salmon recovery efforts, legal requirements, data management, or a host of other issues. There may also be an interest in taking a geographic approach to committee organization, with selected sub-basins or groups of sub-basins within the overall management area serving as units for more intensive consideration.

2.4.6 Decision-Making Procedures

As with any group representing diverse interests, establishment of decision-making procedures that are both fair and practical is vital to success. In general, the law does not prescribe specific decision-making protocols. However, there are three exceptions:

- ☐ First, the law provides that the initiating governments shall choose which optional elements (Instream Flow, Water Quality, and Habitat) are to be included in planning along with the required Water Quantity element. Under the Instream Flow element, the law states that this choice must be “by majority vote” of the initiating governments. There is no similar directive under the Water Quality and Habitat elements.
- ☐ Second, the law specifies procedures for recommending either new minimum instream flows or revised minimum instream flows. These procedures are described in Section 8.1.2.

- ❑ Third, there is one statutory requirement with respect to decision making by the entire planning unit. This requirement appears in the section describing final approval of the watershed plan by the planning unit, prior to submittal to county governments for hearings and adoption. It is described in Section 8.1.1.

For all other decision-making prior to approval of the completed plan, the planning unit is free to establish its own decision-making procedures. However, inclusive, collaborative procedures both reflect the intent of the law and will help provide the consensus needed for approval and implementation.

2.4.7 Administrative Procedures

Since watershed planning involves a collaborative process outside the routine functions of local governments, tribes, and State agencies, planning units may find it helpful to agree upon a structure to ensure accountability and appropriate progress. Administrative procedures do not need to be complex. However, consideration should be given to the following issues:

- ❑ Authority and procedures for spending grant funds and contracting with outside organizations (see Ecology's "Yellow Book");
- ❑ Accounting for participants' own expenditures and staff time, if grant funds are to be used for reimbursement;
- ❑ Management and accountability for achieving planning milestones, including items required under Ecology's contract with lead agency; and
- ❑ Oversight of planning unit staff and contractors, if they are used.

2.5 Public Involvement

As indicated previously, the Watershed Management Act emphasizes involving citizens, water resource users, and interest groups with a stake in water resources. One purpose of the law, as stated by the Legislature, is:

to provide local citizens with the maximum possible input concerning their goals and objectives for water resource management and development.

The Legislature also provided a specific directive that:

All WRIA planning units established under this chapter shall develop a process to assure that water resource user interests and directly involved interest groups at the local level have the opportunity, in a fair and equitable manner, to give input and direction to the process. (RCW 90.82.030).

Apart from these general statements, the law only requires one specific public involvement action: during the adoption process, each county must hold a public hearing on the completed watershed plan. Apart from this requirement, each planning unit may develop its own public

involvement process. It should be noted that other, related processes, such as SEPA review, may have more specific requirements for public notice and involvement.

Planning units should consider which steps in the process are appropriate for public involvement and the degree of involvement that should be included. In general, an approach that incorporates broad public input at every stage of the process and keeps the public informed as planning proceeds is more likely to produce an effective plan that can be approved and implemented. A written Public Involvement Program may be useful.

Some suggestions for Public Involvement activities include:

- ☐ Citizen representation on the planning unit
- ☐ Interest group representation on the planning unit
- ☐ Public Meetings
- ☐ Hearings
- ☐ Opportunities for written input
- ☐ Creation of Advisory Groups
- ☐ Newsletters
- ☐ Surveys
- ☐ Internet sites
- ☐ Use of print or broadcast media
- ☐ Speaking at meetings of local organizations

- ☐ Opportunities for inclusion of volunteers in appropriate activities

The Bibliography includes reference materials that can assist planning units in establishing an effective public involvement program (also see Appendix F). Public education can be an important component of the public involvement process. However, public education is not the same as public involvement. Public involvement includes informing the public with respect to specific decisions to be made (including watershed plan elements), and obtaining public input on these decisions, through a variety of means. In contrast, public education may be more general, with the objective of improving citizens' ability to understand watershed science, the interrelationship of biological and physical factors, the relationship between surface and groundwater, and the web of laws, regulations and programs that affect water quality and availability.

Public education can assist in equipping citizens with the knowledge base they need to become involved in making sound decisions on watershed management issues. However, public education is a long-term investment, and may not be effective in improving public decision-making within the time period allocated for producing a watershed plan. Public involvement activities, on the other hand, can be focused on decision-making to ensure citizens have the opportunity to provide input at the time the watershed plan is being developed. Planning units should carefully consider how to allocate limited watershed planning grant funds among public involvement, public education, and other activities such as technical studies and plan development.

2.6 Defining Planning Unit Mission and Objectives

At the very outset of the planning process, it is important to clearly spell out the mission and objectives of the planning unit. To a large degree, this will be affected by the overall scope of planning, in terms of the selection by the initiating governments of the elements of the plan to be addressed (see Section 3.1). In addition, public input can offer valuable suggestions with respect to mission objectives.

Planning units may find it useful to develop a charter, or a formal statement of mission and objectives. A formal statement established at the beginning of the process also can assist later in resolving disagreements among planning unit members over the philosophy and contents of the watershed plan, by providing basic principles serving as a “yardstick” for plan elements. However, there should also be a recognition that the charter, mission, or objectives may need to be amended as planning progresses.

2.7 Establishing Linkages with Parallel Activities

In virtually every basin around the State, a variety of regulatory programs, ongoing water resource management activities, and past or ongoing studies must be factored into watershed planning (see Table 2-1). A watershed plan under the watershed Management Act does not supersede other federal, state, or local requirements. However, a well-done watershed plan can provide a framework for state, local, and even federal agencies to modify existing or pending actions to reflect documented findings and local management direction in each watershed. If there is clear definition and broad support of planning recommendations, State and federal agencies may construe the watershed plan as an expression of the public interest, lending significant credibility and support for consistent and complementary agency actions.

For example, focusing water quality management strategies into the form of water cleanup plans can result in improved coordination between local initiatives and state and federal requirements.

Potential linkages with salmon recovery efforts are addressed in Section 11.1 of this manual.

Establishing formal and informal linkages between the watershed planning process and other programs can be a valuable tool in planning and management. This issue should be addressed during planning unit formation and development of planning procedures.

Table 2-1 lists a variety of programs at the local, tribal, State, and federal level that are relevant to watershed planning. The Table also summarizes potential relationships between watershed planning and related programs. In some cases, programs may be viewed as a direct input to watershed planning, such as the parameters established by county or city land use planning documents. In other cases, existing programs may constrain available options for Watershed Management, or provide valuable data sources. In the long-term, planning units may wish to consider how implementation of the Watershed Plan can dovetail with other planning activities that are funded as part of routine government operations.

Table 2-1 Relationships Between Existing Programs and Watershed Planning					
Gov't Level	Program	Relationship to Watershed Planning			
		Data Source	Constraint on Mg't Options	Potential Funding Source*	Implementation Tool
Local	County-wide Planning Policies				X
	Comprehensive Plans	X			X
	Coordinated Water System Plans	X			X
	Drinking Water Source Protection Plans (Wellhead/Watershed)			X	X
	Shoreline Master Plans				X
	Salmon Recovery Plans/Documents	X	X		X
	Nonpoint Source Control Plans	X		X	X
	Stormwater Plans	X		X	X
	Onsite Septic System Inventory	X			
	Critical Areas Ordinance				X
	Water System Plans	X			X
	Water Conservation Plans				X
	Wastewater Plan	X		X	X
	Irrigation District Plan			X	X
	Hydropower Plans		X		X
	Shellfish Protection Plans/Programs	X			X
	Groundwater Management Plans	X			X
Tribal	Fishing Rights		X		
	Reserved Water Rights		X		
	Hatchery Plans				X
	Local Gov't Planning Functions	(See Local)			X
State	Water Rights Records	X	X		
	Instream Flow Regulations/Studies	X	X		
	Salmon Recovery Plans	X	X	X	X
	Wastewtr Permit Life Cycle System	X	X		X
	TMDL Studies/Water Quality Plans	X	X		
	WQMA Needs Assessment	X			X
	Designated Use Regulations	X			
	Water Quality Program	X		X	X
	Drinking Water Grants/Loans			X	X
	Water Quality Grants/Loans			X	X
	Forest Practices Watershed Analysis	X	X		
	Limiting Factors Analysis (2496)	X	X		
	Hatchery Plans				X
	DOT Fish Passage Grant Program	X	X	X	X
	Federal				
NIMFS, USFWS		X	X		
USBR		X	X		
ACOE		X	X	X	X
ACOE			X		
FERC		X	X		
USFWS				X	

* Potential Funding Source for long-term, sustained watershed planning activities, where planning objectives overlap

During the watershed planning process, it is suggested that linkages be developed between the planning unit and other key activities that are ongoing in the management area. Some options for establishing linkages include:

- ☐ Appointing representatives to the planning unit who have direct involvement in parallel activities such as flood control, habitat restoration, or water quality.
- ☐ Establishing a systematic briefing process to both inform the planning unit of parallel programs, and vice versa.
- ☐ Undertaking a broad review of ongoing initiatives and related studies as part of the scoping process (this option is covered further in Section 3.3).

2.8 Establishing Linkages with Adjacent WRIAs

Planning units may wish to consider how their activities could be designed for consistency with adjacent WRIAs being planned for by other planning units. This may be valuable since many of the local governments engaged in planning may be active on more than one planning unit. It is particularly applicable for those management areas that are upstream or downstream of a separate management area on the same river. In addition, WRIAs may have important linkages on the basis of Evolutionarily Significant Units (ESUs) with respect to listed species; groundwater resources; or other considerations. In these cases, there may be enough overlap in some technical assessment and planning activities to justify joint design and funding of data collection or other activities.

2.9 Integration with SEPA and NEPA

The Planning Unit should consider integration of State Environmental Policy Act (SEPA) and National Environmental Policy Act (NEPA) considerations in the watershed planning process. Addressing SEPA and NEPA throughout the planning process can eliminate unnecessary duplication of efforts at key stages, thereby reducing costs and establishing a firm basis for plan implementation (see Section 11.2).

Section 3

Developing a Work Plan, Schedule, and Budget (Phase 1)

This section of the manual discusses determination of the plan's scope and development of a work plan for achieving planning objectives. Together with the items discussed in Section 2, this section completes the discussion of Phase 1 of the grants program.

3.1 Establishing the Overall Scope of Planning

3.1.1 The Four Watershed Planning Elements

The Watershed Management Act identifies one required element and three optional elements of watershed planning. The Water Quantity Element must be included if the Watershed Management Act grant funds are used in developing the plan. The initiating governments can choose whether to include the Instream Flow, Water Quality, and Habitat elements. For the Instream Flow Element, the law specifies that the initiating governments use a majority vote among themselves to determine whether it is included. For the Water Quality and Habitat elements, the law does not prescribe a decision protocol for the initiating governments.

The four elements are shown graphically on Exhibit 3-1 and described briefly as follows:

Water Quantity (Required)

This element involves assessing water supply and use in the management area, and developing strategies for future use. It involves items such as assessment of available water; inventory of water rights, claims, and permits; and projections of future needs, and methods for increasing available water. The planning unit is directed to develop alternatives for meeting current and future needs for both in-stream and out-of-stream objectives.

Instream Flow (Optional)

If this element is included, the planning unit may request that the Department of Ecology (Ecology) either modify existing minimum instream flows, or adopt new minimum instream flows for streams that do not have them. The law establishes a specific procedure for recommending instream flows, that gives tribes and local government members of the planning unit the responsibility to make the planning unit's decisions on this topic (see Section 8). Additional information on instream flow setting is included in Appendix G.

Water Quality (Optional)

The Water Quality element includes items such as the degree to which existing standards are being met, the causes of water quality violations, consideration of total maximum daily loads, and recommendations for monitoring. The planning unit is not authorized to set water quality standards, but can provide much needed input as Ecology establishes total maximum daily loads.

As a Complement to the items listed in the law, the planning unit may wish to develop its own set of goals for each element of the scope. For example, goals of water quality planning may include:

- ☐ bring all polluted waterbodies up to meet water quality standards;
- ☐ maintain the current state of waterbodies that meet or exceed standards;
- ☐ preserve the beneficial uses of waterbodies;
- ☐ preserve groundwater quality through protective measures; and,
- ☐ increase the availability of fish and shellfish by preventing and correcting in-stream pollution problems.

Habitat (Optional)

The Habitat element involves “coordination and development of the watershed plan to protect or enhance fish habitat in the management area.” The law emphasizes integration with other laws and programs that address habitat restoration and recovery, particularly, the Salmon Recovery Act. The latter law requires use of limiting factors analysis and a critical pathways methodology.

Setting and restoring instream flows and managing demand and hydraulic continuity effects are among the key elements of habitat protection and restoration. The documents cited in the habitat section of the bibliography are excellent resources for understanding the complexity of this important planning element.

3.1.2 Guidance for Selecting Among the Optional Elements

There is a tradeoff involved in selecting optional elements to include in the scope. On the one hand, incorporating additional elements adds to the complexity and expense of the planning process, particularly if substantial data collection is necessary. This may drive costs above the level of available grant funding. On the other hand, leaving out one or more elements may leave the planning unit with inadequate information to solve critical problems in the watershed, resulting in a watershed plan that is not truly viable.

The following considerations are suggested for initiating governments to use in evaluating the three optional elements:

- ☐ Does water quality exert a direct and significant influence on the current and future availability of water in the management area? (This could occur if water quality problems reduce the availability of water supply; cause significant habitat problems that impair water for instream purposes; or because additional water withdrawals will reduce dilution needed to meet water quality standards). If the answer is yes, this suggests that the Water Quality element should be included in planning.
- ☐ Do habitat issues exert a direct and significant influence on the current and future availability of water in the management area? (This could occur if actual or potential listings of endangered species are a factor in the management area, or if anadromous fish are impacted by water uses). If the answer is yes, this suggests that the Habitat element should be included in planning.
- ☐ Are there existing minimum instream flows in the management area which are not met? Are there existing minimum instream flows which limit current or future availability of water for out-of-stream uses? Do flows in streams desired for out-of-stream uses appear insufficient to allow for recovery of anadromous fish species, including those listed under the Endangered Species Act? Are there streams in the basin that lack minimum instream flows where setting such flows would either solve significant instream problems or provide a needed degree of certainty for determining water available for out-of-stream uses? If the answer is yes, this suggests that the Instream Flow element should be included in planning.
- ☐ Are there political or philosophical differences among the proposed planning unit members that make one of the optional elements too divisive? Can significant progress be made on other elements that would advance planning unit objectives without that element? If so, this suggests that the more divisive element can be deferred to allow progress on the other issues.
- ☐ Is there an absolutely critical gap in technical data with respect to one of the optional elements? Would all available funds be used up in addressing the mandatory Water Quantity element plus the optional element with missing data? If so, this suggests that other optional elements should be left out.
- ☐ Are there alternative sources of funds, either from internal or external sources, that can alleviate the budgetary constraint associated with the state Watershed Management grants program? If so, this suggests that more elements, rather than fewer, could be addressed by the planning process.
- ☐ Consider the desired goals for instream and out-of-stream water management in the management area. What aspects are being addressed by existing programs and planning processes? Where will the gaps occur, and what aspects can be addressed by watershed planning?

Interest groups with a stake in water resources may hold strong and divergent views with respect to the three optional elements. While the law gives initiating governments the task of selecting the elements to be included, it also points out that initiating governments may hold public meetings in considering the proposed scope. Even if public meetings are not used, informal sounding out of a broad range of opinions is likely to be beneficial at this stage. With a sound basis for the scoping process, the planning unit will be better prepared to move forward when it is organized.

3.2 Prioritization of Sub-basins Within the Management Area

The Watershed Management Act requires that watershed planning be conducted for management areas consisting of one or more entire WRIA. This does not require, however, that equal resources be devoted to all areas within the management area. Within each management area, there may be sub-basins that have differing priorities for technical assessment and management actions (See Exhibit 3-2). This may be due to the configuration of the sub-basins, the relationship of tributaries and main-stem rivers, the distribution of groundwater resources and overlying soils, or differences in land cover, land use, and the degree of existing or pending development.

If other studies, planning processes, or classification systems have examined sub-basins, it may be advantageous to use the same geographic delineations. For example, these may include Watershed Administrative Units (WAUs) under the State Forest Practices Act, “Sub-Basins” delineated by DNR, or Hydraulic Unit Codes (HUCs) delineated by the US Geological Survey, watersheds designated for non-point source water quality planning, or areas defined on the basis of groundwater resources.

In developing the work plan, priorities for sub-basins within the management area should be considered in relationship to the management area as a whole. For example, the planning unit may determine that certain types of data (e.g. stream flow) needs to be collected throughout the management area, while other types of data (e.g. selected water quality parameters) should be targeted for key locations during the current round of assessment. The watershed plan may then include recommendations for subsequent data collection in sub-basins that could not be fully assessed during the initial round of watershed planning.

3.3 Developing a Work Plan

A systematic process is needed for development of a detailed work plan, schedule, and budget to meet planning unit objectives. The following steps are suggested:

3.3.1 Establish Planning Unit Mission and Goals

A formal statement of the planning unit's mission and goals should be developed at the outset. This statement can be used throughout the process to ensure that the activities undertaken remain true to the intent of the initiating governments and planning unit. However, the planning unit should recognize that amendments to the mission and goals may be necessary as planning progresses.

3.3.2 Perform Initial Overview of Prior Studies, Regulatory Programs, and Parallel Planning Activities

At the outset of the planning unit's discussion of detailed scoping, it is important to take stock of existing data, key regulatory initiatives, and parallel planning activities that could either dovetail with the planning process or otherwise affect it. Preparing a documented overview of related activities affecting the management area can help put all participants on a level footing for discussion of needs and priorities.

At this stage, a detailed review of data and findings is not necessary. A more detailed review of existing information can occur as part of the "Level 1 Assessment" discussed in Section 4.7. However, prior to developing the work plan, it is helpful to identify the key aspects of related activities, including scheduling of significant decisions.

Some examples include items such as:

- ☐ Previous technical assessments addressing water rights and uses, natural water occurrence, water quality, habitat, instream flows, etc.;
- ☐ Previous assessments of groundwater and physical interconnections with surface waters;
- ☐ Status of threatened and endangered species listings in the basin, including upcoming regulatory and funding decisions federal and State agencies;

- ☐ General basin or sub-basin studies;
- ☐ Any information on critical habitat or limiting factors;
- ☐ Listing of stream segments on the 303(d) list and the status of Total Maximum Daily Loads (TMDLs);
- ☐ Previous studies of groundwater quality;
- ☐ Any endangered or threatened species recovery plan, or habitat conservation plan proposed or adopted by federal, State or local government;
- ☐ Draft or final Environmental Impact Statements or related documents;
- ☐ Site-specific project studies;
- ☐ Critical Aquifer Recharge Area designations;
- ☐ Irrigation system conservation plans;
- ☐ Tribal priority areas;
- ☐ Conservation district or NRCS priority areas;
- ☐ Volunteer monitoring and restoration efforts underway or completed;
- ☐ Shellfish closure areas;
- ☐ The status of Total Maximum Daily Loads (TMDL) studies and recommendations;
- ☐ Status and pertinent planning criteria of Growth Management Act (GMA) plans and other comprehensive plans developed by counties and cities;
- ☐ Coordinated Water System Plans, Ground Water Management Area Plans, and other pertinent planning documents;
- ☐ Planned significant additions to the water supply infrastructure of the management area;
- ☐ Critical areas ordinances related to water resources;
- ☐ Non-point source control planning that has occurred;
- ☐ Activities of Watershed Councils or similar groups;
- ☐ Presence, both rearing and spawning, of wild salmonids; and

- ☐ Planned funding requests for wild salmonid recovery projects under the Salmon Recovery Act.

3.3.3 Establish Parameters for Planning

Participants in the planning unit may bring vastly different expectations of the type of management actions to be considered. Once the preliminary overview of related activities has been completed, it may be helpful to have a discussion of the problems and needs to be addressed, the extent to which existing processes address issues identified, and participants' expectations of the scale and nature of Watershed Management solutions appropriate for discussion.

3.3.4 Identify Critical Water Resources Decisions

Water resources decisions that are significant and relevant to the planning unit's mission should be identified. For example, there may be upcoming water rights decisions for which the planning unit can provide guidance; there may be endangered species response actions to be developed, or local governments may be contemplating major infrastructure investments. Once these decisions have been identified, including scheduling, the planning unit can better evaluate how watershed planning can be used in pending and future Management Actions.

3.3.5 Determine Objectives of Technical Assessment

Technical assessment of water resources issues can be expensive and time consuming. Prior to embarking on major data collection efforts, it is important to establish clear objectives that are linked to the water resources decisions identified above. These objectives can be built into a Technical Assessment Protocol (see Section 4.6) or a similar instrument.

3.3.6 Develop Detailed Scope for Level 1 Technical Assessment

Section 4.1.2 describes a suggested process for undertaking technical assessment. Once the objectives of the technical assessment have been outlined, a detailed scope can be developed for review and analysis of existing data (Level 1 Assessment). Specific data sources and the means of analysis should be identified. A Technical Assessment Protocol (Section 4.6) can assist in this process. The cost and schedule for completion of the Level 1 Assessment can also be developed at this stage.

3.3.7 Develop Preliminary Scope of Level 2 Assessment

Development of the detailed scope and Technical Assessment Protocol for collecting new data (Level 2 Assessment) cannot be fully completed until the Level 1 Assessment has been completed. However, in establishing the work plan, consideration should be given to the potential work effort needed to fill any data gaps that may remain upon completion of the Level 1 Assessment.

3.3.8 Consider Role of Long-term Monitoring

Long-term monitoring will play an important role in many watershed management plans. Preliminary consideration of the nature and scale of such monitoring may be of assistance during development of the work plan, by clarifying the relationships among short-term and long-term data needs.

3.3.9 Establish Scope for Data Management Program Development

Maintenance and management of open and accessible data files is critical to the planning and management process. During scoping, the planning unit may wish to consider the need for, and cost of, a management system for storing and maintaining technical data pertinent to planning activities (see Section 6). Both short-term and long-term requirements should be considered. During development of the work plan, the following elements should be considered:

- ☐ Hardware requirements and availability as in-kind contributions;
- ☐ Software requirements;
- ☐ Staffing needs and availability as in-kind contributions; and
- ☐ Techniques for providing remote access via Internet or other means.

3.3.10 Develop Detailed Scope of Public Involvement Program

A scope, budget, and schedule for Public Involvement Activities can be developed at this time (see Section 2.5).

3.3.11 Integration with SEPA and/or NEPA

A program for integrating SEPA and/or NEPA review in the planning process can be addressed at the work plan stage.

3.4 Schedule for Watershed Planning and Management

Scheduling considerations include:

- ☐ The four-year time limit associated with the planning process, under the Watershed Management Act.
- ☐ Integration with related activities controlled by regulatory authorities or other organizations (e.g. endangered species listings; wild salmonid restoration programs, water quality deadlines, planned upgrades to water supply facilities, hydropower re-licensing schedules).
- ☐ Deadlines for funding applications for state and federal financial assistance (e.g. additional phases of watershed planning; Centennial Clean Water Fund, Salmon-restoration funding)
- ☐ Phasing of data collection to support short-term and long-term management actions.
- ☐ Timelines related to SEPA and/or NEPA review.

3.5 Budget for Watershed Planning and Management

Available state funds for watershed planning and management will depend upon the grant process funded by the Legislature and administered by Ecology. Current grant limits are:

- ☐ Phase 1 (Organization and Scoping): \$50,000 for single-WRIA management areas or \$75,000 for multi-WRIA management areas.
- ☐ Phase 2 (Conducting Watershed Assessment): \$200,000 for each WRIA in the management area.
- ☐ Phase 3 (Watershed Plan Development and Recommendations): \$250,000 for each WRIA in the management area.

Considering the cost of comprehensive technical studies, and the need for long-term funding to support a sustained management program, these limits are likely to be inadequate to fully fund watershed planning and management in many management areas. Therefore, budgeting for the planning process should also consider alternative sources of funding, such as:

- ☐ Additional State and federal financial assistance programs;
- ☐ In-kind contributions by planning unit members or other organizations;
- ☐ Technical assistance from State and federal agencies;
- ☐ Local sources of funding, involving participants in watershed planning.

Once the available sources of all funding for the planning process have been identified, a budget can be developed for each item in the work plan. It may be advisable to reserve a portion of the available funds from the start, to address contingencies and additional data needs that are identified as the planning process unfolds.

Section 4

Process of Conducting Technical Assessments (Phase 2)

In the process of developing this manual, a variety of approaches were discussed with respect to guidance on technical assessments. There is broad agreement that development of standard practices for technical assessments would be valuable both for individual planning units and for State agencies involved in water resource planning and management. Unfortunately, given the limited time and resources available for development of this manual, the task of specifying standard practices for the entire spectrum of watershed assessment activities proved unmanageable. Instead, this manual provides a set of procedural suggestions designed to aid planning units in designing and undertaking technical assessments. In addition, the Bibliography contains references that offer specific guidance on the “nuts and bolts” of technical assessments.

The participants in developing this manual encourage a subsequent follow-up to develop standard practices where feasible. To the extent such materials are developed, they can be incorporated in later editions of this manual.

4.1 Time Frames and Objectives of Data Collection

Phase 2 of the watershed planning program involves technical assessment of water resources. Information from technical assessments will not resolve the key issues in each management area. However, use of the best information available is a prerequisite to developing sound recommendations in the watershed plan. Moreover, without a systematic approach to data assembly, planning can become mired in discussions over data alone. A well-developed approach to data collection and analysis can promote agreement on the information itself, thereby permitting the planning unit to devote time and energy to discussion of more fundamental issues. The process outlined in this Section is intended to enable planning units to assemble adequate information and then move forward.

Planning units should carefully consider the objectives of assembling information. In many areas, there is a tremendous volume of existing data, and a nearly infinite potential to collect new data. It is important to determine the objectives and uses of information prior to expending large amounts of time and energy collecting and analyzing data. In other cases, important information will be found lacking. In these cases, planning units will need to develop approaches that allow for uncertainty and/or undertake new studies. The techniques presented in this Section can assist in streamlining the technical assessment process.

The planning approach envisioned in this Guide to Watershed Planning and Management (manual) recognizes that, in the short-term, decisions on water resources may continue to be made even while the planning process is underway. Collection of new data on water resources

often requires lengthy periods to complete, particularly where trends over time are important. Therefore, in many management areas it may be preferable to rely on existing data to develop the initial watershed plan. Collection of new data can often be deferred to the implementation phase, which is expected to involve continual adaptation and revision over time. If new data is collected for the purposes of the initial watershed plan, it should be data that is expected to produce valuable insights within the time-frame of plan development.

The planning unit may wish to consider incorporating data collection related to SEPA review in the technical assessment phase. Data collected may be useful in evaluating potential adverse environmental impacts. This can help to avoid unnecessary duplication of effort.

4.2 Required Contents of the Technical Assessment

The Watershed Management Act includes requirements regarding the type of information to be included in the technical assessment. The requirements listed in the law for the four elements of watershed planning are presented in Table 4-1.

Table 4-1 Technical Assessment Requirements of the Watershed Management Act	
Element	Technical Assessment Requirements
Water Quantity (Required, as a condition of grant funding)	<input type="checkbox"/> Estimate of surface and groundwater present in the management area. <input type="checkbox"/> Estimate of the water in the management area represented by claims in the water rights claims registry, water use permits, certificated rights, existing minimum instream flow rules, federally reserved rights, and any other rights to water. <input type="checkbox"/> Estimate of the surface and groundwater actually being used in the management area. <input type="checkbox"/> Estimate of the water needed in the future for use in the management area. <input type="checkbox"/> Identification of the location of areas where aquifers are known to recharge surface bodies of water and areas known to provide for the recharge of aquifers from the surface. <input type="checkbox"/> Estimate of the surface and groundwater available for further appropriation, taking into account the minimum instream flows adopted by rule or to be adopted by rule under this chapter for streams in the management area including the data necessary to evaluate necessary flows for fish.

Table 4-1 (cont) Technical Assessment Requirements of the Watershed Management Act	
Water Quality (If Addressed)	<input type="checkbox"/> An examination based on existing studies conducted by federal, State, and local agencies of the degree to which legally established water quality standards are being met in the management area. <input type="checkbox"/> An examination based on existing studies conducted by federal, State, and local agencies of the causes of water quality violations in the management area, including an examination of information regarding pollutants, point and nonpoint sources of pollution, and pollution-carrying capacity of water bodies in the management area.
Habitat (If Addressed)	<input type="checkbox"/> The analysis shall take into account seasonal stream flow or level variations, natural events, and pollution from natural sources that occur independent of human activities. <input type="checkbox"/> An examination of the legally established characteristic uses of each of the nonmarine bodies of water in the management area; <input type="checkbox"/> An examination of the impacts to beneficial or characteristic uses, caused by changes in watershed hydrology. <input type="checkbox"/> An examination of any total maximum daily load established for nonmarine bodies of water in the management area, unless a total maximum daily load process has begun in the management area as of the date the watershed planning process is initiated under section 2 of [the Watershed Management Act]. <input type="checkbox"/> An examination of existing data related to the impact of fresh water on marine water quality. <input type="checkbox"/> The Watershed Planning Act contains no specific requirements for technical assessment. However, where habitat restoration activities are being developed under the Salmon Recovery Act, such activities must be relied on as the "primary nonregulatory habitat component" under the Watershed Management Act. <input type="checkbox"/> The Salmon Recovery Act requires analysis of "limiting factors" in developing a habitat project list. Limiting factors are defined as "conditions that limit the ability of habitat to fully sustain populations of salmon.... primarily fish passage barriers and degraded estuarine areas, riparian corridors, stream channels and wetlands" (see Appendix A of this manual). The discussion of the Salmon Recovery Act in the law appears to indicate that planning units should rely on studies conducted under the SRA wherever possible, rather than undertaking separate studies.
Instream Flows (If Addressed)	<input type="checkbox"/> The Watershed Planning Act contains no specific requirements for technical assessment.

Note: the Watershed Management Act contains additional requirements for strategies and recommendations to be included in the watershed plans, as well as processes for planning and rule adoption.

Technical assessments may also include additional types of information pertinent to achieving the objectives of watershed planning. For example, in many management areas, groundwater quality may be as important, or more important, than surface water quality.

Planning units may wish to consider how the technical assessment can contribute to Ecology's processing of water rights applications. A review of the issues Ecology is required to address may be helpful in this regard. In brief, RCW 90.03.290 lists four "tests" an applicant must pass in order to be granted a new water right. These are:

- ☐ The water must be available for allocation;
- ☐ The water must be put to a beneficial use;
- ☐ The use must not impair existing rights; and

- ☐ The use must not be detrimental to the public welfare.

Two of these tests, availability and impairment, rely highly on technical information and analysis. Therefore, the planning unit may wish to consider how technical assessment performed at the scale of a watershed can improve the application of these tests within the management area. For example, technical assessment (including review of water rights data as well as information related to physical sciences), can help address the question of water availability. In cases where minimum instream flows have been established (or will be established through the planning process), technical assessment could be designed to address key aspects of impairment of those flows, on a sub-basin or watershed basis. On the other hand, it is unlikely that technical assessment performed at a watershed scale will provide useful information with respect to site-specific impairment of individual water rights for out-of-stream purposes. Further discussion of the types of data that may be included is provided in Section 5.

4.3 What Constitutes Adequate Technical Assessment?

The Watershed Planning and Management law provides a broad description of the information that must be addressed in developing the watershed plan. These descriptions are more specific in the cases of water quantity and water quality, and less specific in the cases of habitat and instream flows (see Table 4-1). The law does not specify techniques of data collection, level of detail, or methods of analysis to be used in developing this information. Therefore, planning units have considerable latitude to determine what constitutes an adequate technical assessment for purposes of developing the watershed plan. Adequacy will vary from watershed to watershed, depending on issues such as:

- ☐ Availability, scope, and quality of existing data, and the infrastructure already in place for data collection and analysis;
- ☐ Particular management decisions the planning unit identifies as priorities;
- ☐ Extent to which the planning unit wishes to develop short-term strategies, as opposed to long-term strategies;
- ☐ Allocation of funding and other resources to the different issues identified for consideration;
- ☐ Priorities among sub-basins within the management area;
- ☐ Degree of uncertainty associated with key information and projections; and,
- ☐ The degree of risk associated with basing decisions on uncertain information.

In order to design and budget for technical assessments, planning units may want to address the following questions for the respective elements of watershed planning (i.e., quantity, quality, habitat, instream flows):

- ☐ What are the major areas of uncertainty affecting the watershed plan, and can the uncertainty be substantially reduced through short-term data acquisition?

- ❑ What is the risk associated with deferring data acquisition or relying on imprecise estimates?

Exhibit 4-1 identifies appropriate levels of assessment using this framework. For each type of information considered, a low degree of uncertainty and low risk would suggest a lesser degree of technical assessment may be adequate to support the watershed plan. A high degree of uncertainty and high risk would suggest more technical assessment is appropriate. For intermediate cases (low risk/high uncertainty; or high risk/low uncertainty), the degree of risk is the primary driver. This framework can be applied to the management area as a whole, or to specific sub-basins.

Examples:

Low Uncertainty/Low Risk:

In a portion of the management area, there is a 15-year record of water quality measurements that are judged to be directly applicable to the watershed plan. Water quality is high. County comprehensive plans suggest that land uses in the area will be stable for the next 20 years, and there are no rapidly-growing urban centers. The combination of good information and little expectation of new or increased water quality impacts suggests that the planning unit should not invest significant resources in technical assessment of water quality.

High Uncertainty/Low Risk

In a watershed or sub-basin, streamflow data is not available and existing uses are not well documented. Thus, there is high uncertainty with respect to the availability of water. However, based on comprehensive plan projections, little growth in demand is projected. Therefore, the risk of proceeding with plan development without streamflow data is low. The conclusion is that expenditure of assessment funds on collecting streamflow data is not warranted, and funds could be better used addressing other issues or other sub-basins.

Low Uncertainty/High Risk

Previous studies of habitat characteristics have identified the main problems affecting anadromous fish in the management area. The precise relationship between land use and habitat has been partially characterized, but more could be done to improve understanding of linkages. At the same time, the federal government has initiated land-use requirements to protect salmon, and these requirements could seriously affect lifestyles and economic activity in the management area. Even though some habitat information is already available, the planning unit may wish to spend funds on improved information and analysis. With slight improvements in information, the watershed plan can offer a management approach that meets habitat needs at the least cost to local governments, citizens and businesses.

High Uncertainty/High Risk

In a rapidly growing area, minimum instream flows are regularly exceeded and new water rights are not being issued by the Department of Ecology (Ecology). Moratoriums in issuance of building permits have been issued since water supply cannot be guaranteed. Growth in demand for water supply could be met by groundwater. It is not known whether pumping groundwater from a particular aquifer would reduce stream flow or not. The planning unit may choose to use technical assessment to determine whether groundwater development would affect streamflows, and by how much. The technical assessment could produce data that either demonstrates groundwater rights can be issued without harming instream resources, or assesses the degree of impact and helps determine what level of mitigation would be required to permit new water allocations to occur.

4.4 Developing a Water Balance

Preparation of a “water balance” can assist planning units in addressing the physical aspects of water availability described in Table 4-1. A water balance is a conceptual tool for understanding the pathways by which water enters, flows through, and leaves a watershed. It can provide a useful starting point for consideration of water quantity, water quality, and habitat issues. Over the past ten years, basin assessments conducted in a number of areas around the State have utilized this approach in determining the physical availability of water.

A water balance can be prepared for an entire WRIA, a sub-basin within a WRIA, or some other geographic area. The key to developing a water balance is the recognition that each component can be estimated to a higher or lower degree of precision, depending on the need and intended application. Higher precision can provide valuable input to decision-making on water quantity issues, but it requires additional data that comes at a correspondingly higher cost. Depending on the circumstances, a relatively low degree of precision may be adequate for decision-making (see Section 4.3).

A simplified water balance can be summarized as follows:

$$\text{Precipitation} = \text{Runoff} + \text{Groundwater Recharge} + \text{Evapotranspiration}$$

These components are described as follows:

Precipitation: Precipitation includes rainfall, snowfall, and even condensation (which can be a factor in areas subject to lengthy periods of fog. The total quantity of precipitation that falls within a WRIA, or sub-basin, can be estimated from precipitation records maintained by the National Weather Service and other organizations. In many WRIAs, precipitation varies considerably from place to place depending on topographic features and other factors. In some cases, precipitation may represent virtually all water entering the WRIA. In other cases, artificial importation of water from another WRIA, or substantial flows of groundwater across basin boundaries may also represent inputs to the total water entering a WRIA.

Runoff: Runoff is the water that flows overland or in the shallow subsurface and quickly reaches surface water bodies such as streams, rivers, lakes, or the sea.

Groundwater Recharge: This is the portion of precipitation that infiltrates past the root zone and enters a groundwater system. Groundwater is stored for a time within the WRIA. However, virtually all groundwater ultimately flows into a surface water body somewhere. Groundwater discharge to a surface water body may occur in the same WRIA, or groundwater may flow into another WRIA. Depending on hydrogeological conditions, groundwater flow to surface water may occur within hours, days, years, or even centuries.

Evapotranspiration: This is water that is returned to the atmosphere. It consists of two components. First, water may evaporate directly into the atmosphere from surface water bodies or the ground surface. Second, water taken up by plants, including lawns, crops, and forests, is “transpired” to the atmosphere through the plants’ leaves.

The simplified water balance described above may not fully capture all-important elements of the movement of water through a WRIA. For example, some WRIs include substantial importation of water from other WRIs through pipelines or canals, or storage in reservoirs. In addition, groundwater flow does not always follow the same divides as surface water flow. Therefore, groundwater may flow into or out of a WRIA across the WRIA boundaries.

The law also calls for consideration of “seasonal and other variations.” Addressing seasonal and geographic breakdowns of water balance information can greatly increase the value of the information obtained, particularly since future uses may follow predictable seasonal and geographic patterns.

A water balance can be developed by using a combination of available data and estimating techniques. The data sources listed in Table 5-1 provide a starting point. Many of the sources cited in the Bibliography include examples of water balances for different areas around the state.

4.5 Estimating Water Rights and Uses

The question of how much water is available for new uses depends not only on the physical water balance, but on legal rights and uses of water. The requirements spelled out in The Watershed Management Act for the water quantity element (see Table 4-1) also include estimation of the quantity of water represented by water rights claims, water use permits, certificated rights, minimum instream flow rules, and federally reserved rights. In addition, the law calls for an estimate of the amount of water actually being used in the management area.

Many of the sources cited in the Bibliography contain examples of estimation of water rights and uses. Generally this estimation includes the following elements:

- ❑ Use of Ecology’s digitized database of water rights contained in the Water Rights Information System (WRIS);

- ☐ Review of more detailed documentation for major water rights, such as those associated with irrigation districts, large public water systems, etc.;
- ☐ Consideration of the actual amounts of water used, in comparison with documented water rights;
- ☐ Review of minimum instream flows established in WAC 173-500 to 173-564;
- ☐ Estimation of the number of exempt wells in the management area, and the amount of water used by well owners;
- ☐ Consideration of federal reserved rights related to Indian reservations, military lands, national wildlife refuges, national forests, national parks and monuments, and other federal lands (see Section 11.3); and
- ☐ Consideration of the seasonal and geographic distribution of the above items, and comparison with seasonal and geographic breakdowns of the water balance described in Section 4.4.

Table 5-1 lists a number of sources of information that may assist in characterizing water rights and uses in the management area.

4.6 The Technical Assessment Process

The Watershed Management Act specifies the contents of technical assessments (see Section 4.2), but does not prescribe a particular process for conducting assessments. This manual offers an approach to organizing the process of performing technical assessments. This approach is purely optional, and is presented solely to assist planning units in achieving useful results in an efficient manner. In cases where technical issues are relatively simple and planning units can readily agree on technical methods, a relatively informal application of these techniques may be adequate. In other cases, a more formal approach may be necessary to clearly delineate methods and objectives of technical assessments, and to provide a means for objective verification of findings.

The technical assessment process associated with watershed planning can be developed in three distinct steps (Exhibit 4-2). The first two steps fall under Phase 2 of the watershed planning grants program. The third step is really part of long-term implementation, following plan adoption. This three-step process allows decision-making to proceed in the short-term, yet recognizes that in the long-term, management actions can be refined as scientific understanding improves.

- ☐ Level 1 Assessment: A comprehensive compilation and review of existing data relevant to defined objectives. If the planning unit determines that existing data is sufficient to support needed management decisions, they may choose to bypass Step 2 and move straight to Step 3. This determination could be made separately for various issues being considered, or for different sub-basins.

- ❑ Level 2 Assessment: Collection of new data within the time frame of the planning process, to fill critical data gaps and support well-defined decision needs.
- ❑ Level 3 Assessment: Long-term monitoring of selected parameters following completion of the initial watershed plan. The data collected over time can be used to improve the Watershed Management strategies in the long-term, using “adaptive management.”

In addition to collection of the data itself, two techniques can assist in planning data collection and minimizing disagreement over data alone. These techniques are:

- ❑ Technical Assessment Protocol (TAP): The TAP is a technique for establishing agreement in advance on the purposes of specific data to be collected, the methods to be used, and the appropriate end points of data collection. A TAP is envisioned as being developed prior to the Level 1 Assessment; then revised prior to the Level 2 Assessment. The TAP is more fully described in the box on page 4-18. The Bibliography lists several publications that can assist in developing protocols.
- ❑ Technical Validation Process (TVP): A process using a technical panel to provide an objective review of data collection, findings, and adequacy to support the purposes outlined in the TAP. The intent is to achieve agreement on technical issues separately from discussion of political and philosophical issues. The TVP is more fully described in the Box on page 4-19.

4.7 Level 1 Technical Assessment: Putting Existing Data to Work

4.7.1 Compile Existing Data

For a variety of reasons, it is vital that technical assessments use existing data and build on studies that have already been completed. In many cases, existing data may be sufficient - or nearly so - to permit management recommendations. In other cases, existing data will not be sufficient, but systematic compilation and assessment of the existing data can identify data gaps and reduce the cost of the technical assessment.

In general, the following is recommended:

- ❑ Identify and compile all watershed scale plans.
- ❑ Identify and compile all relevant technical studies and reports – published and unpublished.
- ❑ Identify, locate, and determine sources of aerial photographs, printed and digital.
- ❑ Identify and compile all relevant geographic information system coverages.

- ☐ Identify, compile, and maintain a local expertise directory, of individuals with on-the-ground information.
- ☐ Identify environmental problems or issues important to local citizens, local government, State, and federal agencies.
- ☐ Identify economic projects important to the watershed.

Potential sources of existing data are addressed in Section 5. These sources can serve as the basis for the Level 1 Technical Assessment. The Level 1 Assessment builds on the Initial Overview discussed in Section 3.3.2. It goes beyond the Initial Overview in terms of being more comprehensive within the scope determined by the TAP, and in analyzing the existing information to a greater degree.

4.7.2 Assess Validity and Adequacy of Existing Data

Once the available data has been compiled, it should be reviewed to determine whether or not it serves the objectives outlined in the TAP. Depending on the degree of complexity, and the status of discussions among planning unit members, use of a Technical Validation Process (TVP) may be useful at this stage (see Section 4.12). The criteria established by the TAP can be used to measure the value of the existing data, such as:

- ☐ “Shelf-life” of existing data, if it includes elements that were collected some time ago.
- ☐ Adequacy of methodology, compared with currently available methods.
- ☐ Completeness of the data, for planning objectives.
- ☐ Quality control measures taken.
- ☐ Uncertainty associated with the data.

In assembling data from existing sources, it is important to recognize distinctions between raw data, processed data, and findings based on analysis by prior investigators. Each of these may play a valuable role in the technical assessment. However, in some cases, it may be useful to go back to raw data rather than rely on findings, especially if previous investigations have not been well documented with respect to methods and quality control.

It is important to recognize that even if the Level 1 Assessment does not provide adequate data for all of the key decisions that have been identified, it may provide adequate data for some of them. For those issues where Level 1 data is adequate, there is no need to undertake the Level 2 study.

4.7.3 Level 1 Technical Assessment Report

The planning unit may find it helpful to document the findings of the Level 1 Assessment in a stand-alone report, which can later be referenced or integrated in the watershed plan. The report can document:

- ☐ Sources of data used;
- ☐ Contents of the data reviewed;
- ☐ Limitations of the data reviewed;
- ☐ Methods of analysis;
- ☐ Findings of the TVP;
- ☐ Adequacy for various purposes, as measured against criteria in the TAP; and,
- ☐ Recommendations for Level 2 Assessment, where appropriate.

If Level 2 Assessment is required, the TAP can be amended to accommodate the studies required to obtain new data.

The Level 1 (and Level 2) reports can also be useful in fulfilling SEPA requirements (see Section 11.2).

4.8 Level 2 Technical Assessment: Short-term Collection of New Data

4.8.1 Revisit TAP and Work Plan

Following completion of the Level 1 Assessment, the planning unit can consider studies needed to fill key data gaps needed for short-term decision-making. At this stage, the TAP and work plan should be revisited, to incorporate any Level 2 Assessment activities that are identified.

4.8.2 Conduct Level 2 Studies

Depending on the needs and objectives of data collection identified by the planning unit, new, short-term studies may provide a valuable contribution to the planning process. This will generally be the case if the key technical issues affecting plan development can be addressed using a short-term study that can be completed in one to two years. In this case, a Level 2 Assessment (i.e. one or more short-term studies to fill critical data gaps) is appropriate.

Some examples of Level 2 studies are:

- ☐ Hydrogeologic studies to determine the extent and characteristics of aquifers in the management area.
- ☐ Feasibility Studies to address:
 - potential means of increasing storage;
 - potential alterations to reservoir operations;
 - optimizing regional water supplies and minimizing future needs through pipeline interties;
 - water re-use options;

- potential conjunctive management of surface water and groundwater, including artificial recharge; and,
- water conservation opportunities (e.g., agricultural, municipal, industrial, etc.).
- ☐ Cost-benefit analysis to evaluate various options.
- ☐ Baseline water quality studies.
- ☐ Instream flow studies, such as Instream Flow Incremental Methodology (IFIM) studies.
- ☐ Habitat Limiting Factors analysis.
- ☐ Modeling of water quantity, water quality, or habitat conditions.
- ☐ Water Source feasibility evaluations (e.g., reuse, desalination, recharge enhancement, aquifer storage, and recovery).

Materials listed in the Bibliography are relevant to a variety of Level 2 studies that may be conducted.

If needed, a Level 2 Assessment should be completed prior to completion of the watershed plan. Therefore, studies addressing long-term trends and ongoing monitoring are not appropriate at this stage. Long-term studies should instead be used as part of the process envisioned for implementation of the Management program (see Section 4.9).

4.8.3 Assess Validity and Adequacy of New Data

This step can follow much the same process as described above for the Level 1 Assessment, including use of a Technical Validation Process (TVP) as described in Section 4.12 and the Box on page 4-16.

4.8.4 Level 2 Technical Assessment Report

As with the Level 1 Technical Assessment, it may be valuable to produce a report documenting the findings of the Level 2 Technical Assessment. It is important to recognize that the individual technical reports documenting the findings of Level 2 studies may not provide the full value of a Level 2 Assessment Report. The Assessment Report will represent the planning unit's evaluation of the new data, its response to the TVP, and its determination whether it is ready to proceed with development of the watershed plan for all aspects of water resources discussed in the TAP. Moreover, as indicated below, the Assessment Report can be a useful aid in fulfilling SEPA requirements (see Section 11).

4.9 Level 3 Technical Assessment: Long-term Data Collection and Monitoring

In many areas of the State, the data that can be assembled within the time frame of watershed plan development will still be lacking in important respects for long-term management. This does not need to either delay or stop the development of a Watershed Management Program. Indeed, it should be recognized from the start that Watershed Management will be a continual process of information gathering, monitoring of trends, and revision of management activities.

The watershed plan itself can reflect this by including a long-term monitoring and data collection strategy (Level 3 Technical Assessment). As with the Level 1 and Level 2 Technical Assessments, the long-term strategy should have clearly defined objectives, and agreed-upon methodologies. The long-term data collection strategy can be coupled with the long-term management approach to ensure that water resource management adapts to both changing conditions and improved information over time.

As with the Level 2 Assessment, standard protocols for gathering and recording data should be considered as an important aspect of long-term data collection. This topic is discussed further in Section 8.

4.10 Feedback Process

The planning unit may find it useful to develop a monitoring and feedback approach that allows for the determination of plan effectiveness. Monitoring and feedback provides the basis for “phasing in” management decisions through an iterative process. This may mean refinement of the implementation plan and changes to implementation if goals are not being attained.

The primary focus of evaluations can be to determine if sufficient progress is being made toward the goals. Once implementation begins, progress can be monitored against the desired future condition. Data can be evaluated by the interested and affected parties, and modifications to the management plan can be implemented as needed. In order to be effective, there needs to be a process to ensure participation of appropriate parties in feedback discussions and data review, at regular intervals.

Monitoring is likely to be valuable throughout the life of the plan. Monitoring activities can be the responsibility of a local entity, a State agency, private organizations, or a combination. Two major components are suggested for a monitoring program:

- ☐ Track implementation of plan elements; and
- ☐ Track progress toward meeting goals within specified timelines.

In some cases, the participants may find that the goals are unreasonable or unreachable. The plan can then be amended to reflect new knowledge and new desired outcomes. Development of a regular reporting schedule may assist in ensuring that appropriate amendments are made.

For example, annual reports on specified indicators could be required as part of implementation design.

4.11 The Technical Assessment Protocol

Collection of data represents an expensive and time-consuming aspect of watershed planning. Therefore, it is important to determine the objectives of data collection and the intended uses of data to be gathered, prior to undertaking studies. In addition, it may be valuable to obtain agreement among planning unit members over the purposes, types, and methods for data collection in advance of gathering information. One useful technique is to develop a Technical Assessment Protocol (TAP) at the outset. The TAP is described further in the box below.

What is a Technical Assessment Protocol (TAP)?

A Technical Assessment Protocol (TAP) is a written program for technical assessment that is recognized by all members of the planning unit prior to undertaking significant technical studies. It guides the process of collecting and analyzing water resources data for a given management area. A TAP is designed to serve several important purposes:

- ☐ A TAP clearly links planned data collection and analysis to objectives determined by the planning unit;
- ☐ A TAP provides clear expectations among all parties with respect to the types of data needed, methods of data collection, and the “tools” of analysis; and,
- ☐ A TAP establishes clear points of “closure” for each level of data collection and analysis (e.g. existing data, short-term new data, or long-term monitoring).

Elements of a TAP:

A TAP may contain the following elements:

- ☐ Brief background on relevant issues for each technical area to be assessed;
- ☐ Statement of objectives and appropriate uses for each type of data, within the overall framework of developing the watershed plan;
- ☐ Specific data collection methods or modeling tools to be used, together with a recognition of their likely limitations;
- ☐ Recognition of the different levels of detail needed for specific items being assessed;
- ☐ Criteria for determining whether the data is satisfactory;
- ☐ Contingencies for addressing missing data in each data set;
- ☐ Well-defined end points or benchmarks for data collection and analysis sufficient to achieve the objectives; and,
- ☐ Methods of documenting data quality.

Each member of the planning unit is then requested to review the TAP and recognize it as the appropriate guidance for undertaking the technical studies in question. This does not imply agreement in advance with all of the findings of the technical studies; but simply that those studies, if carried out in accordance with the terms of the TAP, are appropriate to meet the established objectives, given the available budget and time frame.

Relationship of TAP to Level 1, 2, and 3 Assessments

The TAP can be developed prior to the Level 1 Technical Assessment (see text). Depending on the findings of Level 1, a Level 2 Technical Assessment may be needed to address some or all aspects of the Watershed Assessment. In this case, the TAP can be amended to address Level 2. Presumably, the

objectives and appropriate uses of the data will not be changed, but the methods, criteria, and end-points may be revised. A similar approach can be used for the Level 3 Assessment.

4.12 The Technical Validation Process (TVP)

A Technical Validation Process (TVP) provides an opportunity for planning unit members to come to agreement on the findings of the technical assessment, separately from discussion of recommendations of the watershed plan itself. In brief, the TVP involves use of an objective panel to review and comment on technical data and findings. The TVP is described further in the box below.

The TAP and TVP are simply techniques for aiding the planning unit in dealing with the highly technical nature of the information. These procedural techniques should not overshadow either the information itself, or the values that are central to water resources decision-making.

What is a Technical Validation Process?

A Technical Validation Process (TVP) is an independent and objective review of a technical assessment of the watershed. The purpose of the TVP is to achieve agreement on the merits and adequacy of technical data, separate from discussions of political or philosophical differences among planning unit participants.

Elements of a Technical Validation Process:

Three alternatives are proposed for a TVP. These alternatives, or others like them, can be selected by the planning unit as appropriate to the complexity and potential for disagreement within each watershed.

- ☐ A Technical Panel composed of representatives sitting on the Planning unit, or their staff. In this case, the planning unit would appoint a Technical Panel drawn from its own membership. This Panel should represent the technical disciplines appropriate to the data at hand. Use of planning unit representatives will reduce staff needs and costs, and may promote sensitivity to the appropriate scale of investigation. However, this approach may not be as useful in cases where the planning unit has long-standing, fundamental disagreements over the uses and validity of data. Also, limiting members of the technical panel to planning unit representatives may narrow the breadth of available expertise.
- ☐ A Technical Panel drawing on staff from participating organizations, who are not personally serving as representatives on the planning unit. Since technical objectivity is desired, it would be advantageous to designate staff who are not even involved in policy discussions relative to the watershed plan. This option is intermediate between the other two, and is most applicable to cases where disagreements over technical findings may occur, but are likely to be easily resolved.
- ☐ A Peer Review Panel using disinterested experts from outside the management area. In this case, a Peer Review Panel can be appointed by the planning unit. Panel members should have no vested interests in the management area, or conflicts of interest with respect to the planning unit. This approach will generally be more complex and require higher expenditures, but offers a means of achieving agreement on more difficult issues of data use and interpretation and can improve the credibility of the product.

Output of a Technical Validation Process:

Following a careful review of the data under consideration, the Technical Panel, or Peer Review Panel, produces a written report commenting on the validity and adequacy of the data collected and the extent to which findings are supported by the data. Their discussion can refer directly to the objectives stated in the Technical Analysis Protocol (TAP) which was developed by the planning unit. The report may be either a joint report by the entire panel, or separate reports by individual members addressing separate data collection efforts.

The TVP should help the planning unit by validating the technical information collected, thereby removing one potential source of disagreement among planning unit participants. The TVP is intended primarily as an advisory process. Upon receipt of the TVP report, the planning unit can proceed with its own determination as to the uses and adequacy of the data collected. However, in cases where the third option has been invoked by the planning unit, it may be necessary to agree in advance that all planning unit members will either adhere to the findings of the TVP or present clear and convincing reasons for their opposition to TVP findings.

Section 5

Resources for Data and Technical Assistance (Phase 2)

5.1 Sources of Data

Local, State, tribal, and federal agencies have been collecting data on Washington's water resources for decades. The type, amount, and level of detail varies considerably from place to place. As each planning unit develops a work plan and initiates a Level 1 Technical Assessment (see Section 4), this existing data can serve as an important resource. Indeed, for some issues in some management areas, existing data may be adequate for development of the watershed plan. A long-term management program can then be developed to allow for long-term data collection to fill information gaps and permit adjustments in management strategies over time.

The sources and types of data available vary from place to place within the State. A representative list of data sources is shown in Table 5-1 through 5-4. This list is not necessarily complete, and the members of each planning unit can determine which sources are likely to be most appropriate for the management area in question.

5.2 State and Federal Technical Assistance

Planning units may wish to consider use of State or federal agencies for technical assistance in watershed planning. Agencies could contribute in a number of ways, depending on planning unit needs and agency capacity and interest. As discussed in Section 2.4.2, agencies may either be represented on the planning unit, or be asked to provide assistance without being represented on the planning unit. Technical assistance roles for agency staff could include:

- ☐ Consultation and critique of work plans, or Technical Assessment Protocols (TAP);
- ☐ Participation on technical panels for the Technical Validation Process (TVP);
- ☐ Undertaking specific studies, including collection and/or analysis of new data as part of the Level 2 technical assessment. This could include:
 - Watershed characterization
 - Wellhead protection study/design review
 - TMDLs
 - Water quality assessments
 - Evaluation of compliance with water quality standards
 - Surface water quality monitoring
 - Groundwater quality monitoring
 - Contaminated sediment studies

- Streamflow monitoring
- Wetlands delineation;
- ☐ Short-term or long-term data management services (see Section 6);
- ☐ Training/workshops on topics like:
 - Instream flow methodologies
 - Developing communication/public involvement plans
 - Basic watershed planning
 - Hydraulic continuity
 - Water rights
 - Water laws;
- ☐ Permit assistance;
- ☐ Stormwater permit and manual reviews;
- ☐ Wastewater permit assistance;
- ☐ Shoreline master programs; and
- ☐ Sharing existing information on subjects like:
 - Existing water right claims, permits, or certificates
 - Well logs
 - Streamflow data
 - Ambient water quality data
 - Well monitoring data

The Watershed Planning Act directs State agencies to “assist the local citizens in the planning effort to the greatest extent practicable, recognizing any fiscal limitations.” Technical assistance from State agencies is to be provided only at the request of planning units, and to the extent requested by them. The law does not require that State agencies providing technical assistance also be represented on the planning unit.

Planning units who have invited State agency representatives to serve on the planning unit should discuss options for technical assistance with those representatives. State agencies are authorized to coordinate their activities among themselves, so that the State representation is consistent and streamlined. Therefore, planning units may start by discussing technical assistance with the designated "State lead" assigned to its management area.

In cases where planning units desire technical assistance from State agencies that are not represented on the planning unit, the appropriate agency office should be contacted. A list of contacts on watershed planning for various agencies is included in Appendix D.

In addition to State agencies, organizations such as the Washington State Cooperative Extension Service and the Washington Water Resources Center may be able to assist planning units in some respects.

Federal agencies may also be willing and able to provide technical assistance. Agencies active in water resources include the U.S. Geological Survey, U.S. Bureau of Reclamation, U.S. Army Corps of Engineers, Environmental Protection Agency, National Resources Conservation Service, National Marine Fisheries Service, and U.S. Fish and Wildlife Service. Planning units will need to confirm that federal agencies have an interest and ability to provide assistance.

In some cases, State, or federal agencies may be unable to provide technical assistance without developing fee-for-service arrangements or cost-sharing cooperative arrangements. In these cases, planning units may wish to consider how use of private sector firms would compare with use of agency resources in terms of cost, quality, and timeliness for similar technical services.

The Washington Department of Ecology maintains a web site devoted entirely to watershed planning. This web site includes information on planning activities associated with each WRIA that has received a planning grant. The web site address is <http://www.wa.gov/ecology/lats-etc.html>.

Insert Table 5-1

Insert Table 5-2

Insert Tables 5-3 and 5-4

Section 6

Data Management and Access (Phase 2 and Long-term)

Planning units that undertake Level 2 technical assessments will need to consider how data should be stored, managed, and maintained for designated purposes. In addition, it is anticipated that most planning units will consider long-term data collection to support a sustained Watershed Management Program. Therefore, even planning units that develop a watershed plan based solely on existing data may need to consider arrangements for data management and maintenance.

6.1 Principles for Data Management

Data management is the linchpin of a successful Watershed Management Program. An open and useable system for storing data is necessary to make data accessible, put data to use, allow appropriate responses to changing conditions over time, and provide a firm foundation for inclusive participation in watershed management. Since Watershed Management is envisioned as a long-term process, data management systems should be developed with a long-term perspective.

While the specific arrangements for data management may vary widely among management areas, certain principles should be widely applicable:

- ☐ All participants in basin management should have ready access to the data used as a basis for management decisions. The development of technology for access to data via Internet or other remote access techniques should facilitate access.
- ☐ Organizations assigned responsibility for managing data should have adequate funding, staffing, and management expertise to do the job.
- ☐ Data formats should be defined using standard protocols and common terms of reference, so data collected by other agencies and with varying scales can be compared and put to use.
- ☐ Where feasible, data formats should be consistent over time, and should include measures of data quality that will facilitate updating and continued use over time.
- ☐ Measures should be taken to prevent corruption of data over time.
- ☐ Meta-data (information about the data) should be developed to facilitate sharing and use of data.

6.2 Assign Responsibility for Data Management and Maintenance

The planning unit should consider which organization or group of organizations is best suited to undertake data management. Planning units may want to establish an internal information management sub-group to ensure the proper capture and retention of vital data developed or provided by various sources. It is important that the agencies or organizations designated for data management be accepted for this purpose by all participants on the planning unit. Some options include:

- ☐ A local government such as county, city, or special district;
- ☐ A State agency;
- ☐ A federal agency;
- ☐ A university;
- ☐ A private consulting firm;
- ☐ Some combination of the above, with different types of data managed by the most appropriate organizations, using remote access techniques to provide a central “clearinghouse”; or,
- ☐ A public/private consortium developed specifically to provide a clearinghouse for water resources data.

Whichever alternative is selected, it is important to recognize that data management can require a substantial investment in terms of costs, technical expertise, and staffing requirements. If the organization selected for this function is ill-prepared to maintain the data system over the long-term, the planning unit risks losing access to critical information in future years. The planning unit may wish to use one organization for data management on an interim basis while the watershed plan is being developed. The final determination of long-term responsibility for data management can be made during development of the plan itself, and should be recognized as a central aspect of plan implementation.

6.3 Data Protocols and Documentation

The value of data collected for watershed planning can be greatly enhanced by careful attention to data management protocols and documentation. In a digital age, where large volumes of information can be readily accessed and manipulated, the need for standard formats and documentation has become greater than ever. In developing a data management system, the “Ten-Year Rule” provides one rule of thumb. The Ten-Year Rule prescribes that data documentation should be sufficient to allow a person who has no connection to the original data collection process to understand the purpose for a data set, methods used, results obtained, and the quality assurance measures taken, for ten years after the data was collected.

6.3.1 Data Protocols

As a condition of awarding grants to planning units, the Department of Ecology (Ecology) requires that data collection adhere to a common set of data standards. Use of

common standards will allow State agencies to share useful information, and assist them in assessing the technical basis for the recommendations included in each watershed plan. In addition, use of common protocols will help local governments compare the results of their data collection efforts with results from other studies that may be relevant to their management area.

Ecology has recently developed an Environmental Information Management System (EIMS). The system has been developed to serve both Ecology staff and outside users. At this time, Ecology staff have indicated that the data protocols embodied in the EIMS will serve as a “default” for data collected as part of watershed planning activities. That is, the EIMS protocols should be used unless planning units propose alternative data protocols and provide well-founded justification for using them.

EIMS includes data protocols for a wide variety of data, including physical and biological data pertinent to water quantity, water quality, habitat, and instream flows. In addition to observations, measurements, and analytical results, the system includes protocols for recording station locations, the participants in data collection, and the purposes of a given project.

Further information on the EIMS system is referenced in the Bibliography and can be obtained from Ecology.

6.3.2 Data Documentation

Development of meta-data, or information about the databases, represents an important aspect of planning units’ data development efforts. Meta-data need to be developed in the form of a relational database that can be easily accessed by users and potential users of the watershed database. Meta-data are more easily used if they include a “real-time” view of the data, along with descriptions of data quality, data precision and accuracy, frequency of update, source agency or group, who to contact, etc. Meta-data can be posted over the Internet, so each party can assess the value of the data for their purposes, without expending the resources to acquire the data.

6.4 Hardware/Software

Hardware and software needs to be sufficient to analyze, view, and plot the data in a manner that is not excessively difficult or time-consuming. Many of the State agencies have standardized use of certain software products, and, therefore, data from these agencies will be most easily imported if these same products are used.

The planning unit needs to assess whether or not the watershed database will be stored in one agency on an interim basis, or if a site has been established for long-term data management. If the site has resources for managing spatial and relational databases, (including staffing, as well as hardware and software), then the planning unit would only need a data viewer and reporter for most of its needs.

6.5 Integration with Existing Local Government Information Systems

Integration of the watershed database with the existing local government information systems is needed in order to capture and use the data developed within local governments, promote sharing of data developed by the planning unit, and avoid duplication of effort between the local governments and the planning units.

Several key data layers, which are the responsibility of local governments to own and maintain, need to be identified and used in such a manner that the watershed database system can access periodic updates from the local government.

6.6 Data-sharing Agreements/Policies

Data sharing agreements or policies need to be established. The agreements would be drawn up to identify the division of database management efforts in a manner that is mutually beneficial. Data-sharing agreements could be incorporated in MOAs or other agreements developed to implement the watershed plan.

Section 7

Watershed Plan Development (Phase 3)

Under the watershed planning grants program, Phase 3 awards are intended for development of the watershed plan and recommendations. This section describes the process of preparing the watershed plan and developing recommendations for short-term and long-term actions and strategies. Development of the watershed plan is summarized in Exhibit 7-1.

7.1 Public Participation

As indicated throughout this manual, and highlighted in this section, public participation is both required by the watershed planning and management statute, and essential to development of an effective, durable water-resource management program. Development of a thorough public involvement program should receive a high degree of attention from the planning unit to ensure adequate input is obtained and the plan reflects public attitudes and concerns.

Public participation also is an important part of the State Environmental Policy Act (SEPA) and/or National Environmental Policy Act (NEPA) review. To the extent the planning unit addresses integration with SEPA and NEPA, careful consideration should be given to meshing public participation activities (see Section 11.2).

Public education will be essential in acceptance and implementation of the watershed plans and represents an important aspect of public participation.

7.2 Planning Parameters

A number of formal and informal parameters serve as “boundaries” for the planning process. These have been addressed in previous sections of this manual. In preparing the watershed plan, the following broad parameters should be considered:

- ☐ Scope of planning, (i.e. the determination of which elements are to be included; water quantity, water quality, habitat, and/or instream flows). See Section 3-1.
- ☐ Planning unit mission and objectives. See Section 2.6.
- ☐ The “scale” of solutions planning unit members and representatives of potential implementing organizations wish to consider. See Section 3.3.3.
- ☐ Financial considerations.
- ☐ The limitations on plan recommendations, established in the law itself. See Section 1.6.2.

These parameters will guide both the determination of problems to be addressed, and solutions to be considered in the watershed plan.

7.3 Issue Identification

It is suggested that the planning unit distinguish a set of particular issues relative to the elements chosen, that can be addressed productively through the planning process. These issues can be identified through a combination of:

- ☐ Discussion among members of the planning unit itself;
- ☐ Input from other organizations or interest groups invited to submit suggestions; and,
- ☐ Broad public involvement through public meetings, surveys, or similar means.

Clearly, this is one of the stages of the planning process where public input and interest group participation should be emphasized. In addition, this step can be integrated with the scoping process associated with SEPA and/or NEPA.

7.4 Issue Characterization

Once a set of issues has been identified to focus the planning unit's activities, the planning unit can proceed to characterizing each one. The objective is to develop an adequate understanding of each issue so that a sound basis can be developed for considering alternative solutions. Information and analysis may address:

- ☐ Underlying causes of each issue;
- ☐ Who is involved or affected;
- ☐ Effects on human health or natural resources;
- ☐ Short-term manifestations;
- ☐ Long-term trends;
- ☐ Geographic distribution and severity across the management area;
- ☐ Upcoming decisions or actions related to the issue;
- ☐ Ongoing activities that address some or all of the issue;
- ☐ Related programs and plans;
- ☐ Information available and missing; and,
- ☐ Prioritization of issues (high, medium, low).

At this stage, the technical assessment process described in Chapters 4 and 5 plays a critical role. The issue characterization both feeds into the technical assessment, and is informed by the technical assessment. Characterization of the issue helps to define the types of information to be obtained through the review of existing information and undertaking of new, short-term studies. At the same time, the information obtained from the technical assessment is used in analyzing the extent, nature, and severity of each issue addressed. The gradual progression from an initial overview of existing information (see Section 3.3.2) to a Level 1 Assessment and then to a Level 2 Assessment (see Sections 4.6 and 4.7) can help in managing this process and keeping costs of data collection to a minimum.

The next step is to determine which of the priority problems are adequately understood and which need additional data for clarification. The first action taken should be to develop requirements (taskings/projects) for those problems needing clarification. This involves

determining who, when, how, and at what cost the data will be obtained, and a time frame for finalizing data elements. Costs can also be controlled in this phase by initially considering only the highest priority problems.

7.5 Identify Alternative Solutions

Once each issue has been adequately characterized, a set of potential solutions should be identified. Both short-term and long-term approaches should be addressed. Again, the planning parameters, considered in Section 7.1, are relevant. In addition, aspects of implementation are relevant (see Section 7.7).

The Watershed Management Act provides guidance as the types of solutions that are appropriate for consideration. This guidance is summarized in the box below.

Strategies and Recommendations Identified in the Watershed Management Act
<p>In its discussion of the required water quantity element, the law states that:</p> <p><i>The objective of these strategies is to supply water in sufficient quantities to satisfy the minimum in-stream flows for fish and to provide water for future out-of-stream uses...and to ensure that adequate water supplies are available for agriculture, energy production, and population and economic growth under the requirements of the state's growth management act.... The watershed plan must address the strategies required under this subsection.</i></p> <p>In the same section, the law lists potential measures that may be considered. These are:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Conservation <input type="checkbox"/> Reuse <input type="checkbox"/> Use of reclaimed water <input type="checkbox"/> Voluntary water transfers <input type="checkbox"/> Aquifer recharge and recovery <input type="checkbox"/> Additional water allocations, and <input type="checkbox"/> Additional storage and storage enhancements. <p>The law also says that strategies are not limited to those listed above.</p> <p>The law provides additional guidance as to the types of recommendations that may be included in a Watershed Plan. The Plan may:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Make recommendations for actions by local, State, and federal agencies, tribes, private property owners, private organizations, and individual citizens; including a recommended list of strategies and projects that will further the purpose of the Plan in accordance with...the Act; <input type="checkbox"/> Recommend changes in local or State ordinances or rules (the plan itself cannot change ordinances or rules); <input type="checkbox"/> Identify projects and activities serving short-term and long-term management goals which warrant "immediate financial assistance from State, federal, or local government." <input type="checkbox"/> Consider ranking and scheduling implementation for projects that have the greatest benefit.

Several types of solutions may be considered:

- ☐ Specific projects or actions (e.g. a new pipeline, removal of a barrier to wild salmonid migration, installation of a structure to promote infiltration of runoff);

- ❑ Strategies based on a defined set of principles, (e.g. a conservation strategy outlining criteria for implementation of successive levels of conservation tied to weather conditions and population growth); and,
- ❑ A management program that incorporates actions and strategies, and defines a process for collecting information, making collaborative decisions among a defined group of participants, and adjusting implementation over time.

At this stage, a range of alternatives to address each issue is appropriate. Once again, public input and interest-group participation can be highly valuable as potential solutions are identified.

7.6 Evaluate Alternatives and Recommend Solutions

Once a set of alternatives has been identified to address each issue, the alternatives can be evaluated for recommendation by the planning unit. The watershed plan should fully document the evaluation process.

The planning unit may wish to develop a set of criteria for evaluating each alternative. Two sets of criteria are identified in the box below: effectiveness criteria and feasibility criteria. Both are relevant to selection of preferred alternatives.

Criteria for Evaluating Alternatives	
Effectiveness Criteria <input type="checkbox"/> <i>Overall Effectiveness.</i> Among the alternatives considered, which do the best job of addressing the issue at hand? <input type="checkbox"/> <i>Cost-effectiveness.</i> Which alternatives deliver “the most bang for the buck,” even if they do not completely address the issues of interest?	Feasibility Criteria <input type="checkbox"/> <i>Legal authority.</i> Do the implementing organizations have the authority to implement the proposed solution? If not, can ordinances or rules be adopted to provide that authority? <input type="checkbox"/> <i>Approvals/permits.</i> What approvals or permits will be required, especially by organizations not represented on the planning unit. Are those approvals or permits likely to be granted?
<input type="checkbox"/> <i>Flexibility over time.</i> Which solutions offer the ability to be readily modified over time, in response to changing conditions and incoming information? <input type="checkbox"/> <i>Potential Side-effects.</i> Do some of the potential solutions appear to create new problems, or exacerbate existing problems? <input type="checkbox"/> <i>Equity Considerations.</i> What are the differing effects on various groups and economic activities in the Management area?	<input type="checkbox"/> <i>Cost and Funding Sources.</i> How expensive is each alternative, and who will bear the cost? Will funding sources be available, both in the short-term and long-term? <input type="checkbox"/> <i>Administration and Staffing.</i> What organization will administer each solution? Do they have the capabilities to do the job? Will additional staff be required? <input type="checkbox"/> <i>Integration with related programs.</i> How will each solution fit in with related programs and plans? <input type="checkbox"/> <i>Acceptability.</i> Are solutions acceptable to participants, elected officials, and key outside organizations (e.g. NMFS)?

Using the criteria selected, the planning unit should select one or more alternatives to serve as the solution to address each issue. In some cases, a “no-action” alternative may be preferable to any of the other alternatives evaluated. If “no action” is selected, it is important to document reasons.

The alternatives analysis process provides an opportunity for integrating watershed planning with SEPA. SEPA also provides a mechanism for analyzing alternatives, with respect to potential adverse environmental impacts. Effective integration with SEPA during planning can prevent unnecessary duplication of effort.

The Water Resources Act of 1971 (RCW 90.54) established 11 “fundamentals” for utilization and management of water. These fundamentals are listed in Appendix I

and may offer additional guidance to planning units in evaluating alternative solutions.

7.7 Design Implementation Program

A watershed plan will be less effective if implementation has not been fully addressed. In addition to recommending alternatives, the planning unit should develop an implementation program, which specifies who will do what, and when. A well-designed implementation program will help establish the conditions necessary for successful implementation. Components of the implementation program may include:

- ☐ Which organization is responsible for each implementation activity;
- ☐ New ordinances or rules, or modification of existing ordinances and rules (note differences among jurisdictions within the management area);
- ☐ Formal agreements among the planning unit participants or among the implementing organizations, including mechanisms to ensure accountability;
- ☐ How each implementation activity is to be funded;
- ☐ Rule-making requirements of APA;
- ☐ Sequencing and timeline for implementation activities, recognizing those that are time-sensitive;
- ☐ Monitoring to ensure implementation achieves desired outcomes;
- ☐ Contingency Plans to address situations where an organization designated to implement one or more elements proves either unable or unwilling to do so;
- ☐ Integration with related programs and planning processes;
- ☐ Information needed to sustain an effective program over the long-term, and the means of obtaining this information;
- ☐ Creation of a consistent, compatible data management system to monitor progress, maintain historical record, and provide an information source for similar and future projects;
- ☐ Public education and involvement: role of community; and
- ☐ Composition of an implementation committee, if desired, together with a process for adaptive management of the Watershed Management Program and periodic reporting to the planning unit or other appropriate organizations.

During development of the implementation program, there may be a need to revisit the alternatives discussed in Section 7.5.

7.8 Plan Contents

Illustrative Outline of a Watershed Plan

Note: the Watershed Management Act does not prescribe the contents or form of a watershed plan. This illustrative outline is provided solely for the convenience of planning units in developing watershed plans.

Cover letter recommending plan to County Legislative authorities

Executive Summary

Introduction and Background

- Objectives of Planning
- Scope of Planning (Quantity, Quality, Habitat, Instream Flows)
- Key issues addressed
- Relationship to other programs and planning
- Conformance with SEPA

Planning Process

- Initiating Governments
- Planning Unit Participants
- Public Involvement Process and documentation of SEPA/NEPA integration
- Planning Parameters and Process
- Problem/Issue definition
- Method of decision-making

Technical Assessment and Findings

- Historical Context
- Existing Data
- New Studies performed for Watershed Plan
- Summary of Key findings
- Overview of Technical Validation Process
- References to complete studies or reports in appendices or elsewhere
-

Alternative Analysis

- Description of alternatives
- Criteria to be applied
- Recommended alternatives
- Environmental Impact Analysis (related to SEPA)

Recommended Implementation Program

- Organizations designated for implementation
- Proposed ordinances or rules
- Formal agreements
- Funding
- Schedule for implementation
- Integration with Related programs and planning processes
- Long-term data collection and management
- Long-term implementation committee, management program, and collaborative decision process
- Contingencies and process for cases where an organization designated for implementing a plan component proves unable or unwilling to do so
- Measures of success

Conclusion

- Recommendation of Plan to County Legislative Authorities

Appendices

- MOAs or other agreements
- Dissenting opinions, if applicable
- Technical Documentation (e.g. Reports on specific studies; Level 1 Assessment Report; Level 2 Assessment Report)
- Recommended ordinances or rules
- Long-term data collection and management program
- Implementation committee and Responsibilities
- Public Processes required for adoption of rules and ordinances (including SEPA/NEPA integration)
- Public written comments (including application to SEPA/NEPA)

Plans completed by planning units around the State will undoubtedly have differing content. As an aid to development of watershed plans, Section 1.3 lists a number of items that may be included in a watershed plan. In addition, the box on page 7-7 provides an illustrative example of an outline for a watershed plan.

Section 8

Watershed Plan Approval and Adoption

In order for a watershed plan to draw on the authority granted by the Watershed Management Act, it must be approved by county legislative authorities, using a specific process described in the law. This Section describes the process. Additional information on plan implementation is included in Section 9.

The process outlined in the law is presented in Exhibit 8-1.

8.1 Planning Unit Approval and Submittal of Plan to Counties

8.1.1 Planning Unit Approval and Submittal to Counties

The law prescribes that the planning unit may approve the watershed plan, using either of the following procedures:

- ☐ Consensus of all of the members of the planning unit; or
- ☐ Consensus among the members of the planning unit appointed to represent units of government and a majority vote of the nongovernmental members of the planning unit.

The law does not define the term “consensus.” It appears that the planning unit itself can determine how “consensus” is defined and achieved. Consensus is generally understood as meaning that the members of a group either concur or can “live with and support” a decision. However the planning unit chooses to define the term, it is important for all to agree on the definition early on in the process. The material in Appendix J is presented to assist planning units develop a consensus procedure.

The law also does not define what constitutes a “unit of government” for the purposes of the approval process. Here again, it appears the planning unit itself may determine how to answer this question. As a starting point, the types of organizations defined as “initiating governments” in the law would appear to fall into this category. These include counties, cities, tribes, and water utilities (including special districts such as irrigation districts, public utility districts, water districts, etc. as defined in the law). It would be valuable to make this determination at the outset of the planning process, so all members of the planning unit understand what their role will be in the approval process.

If approval of the entire watershed plan cannot be achieved in the manner described above, the planning unit has two options:

- ☐ Approval of components of the plan (with or without a commitment to continue discussion of those elements that are not approved); or
- ☐ Termination of the planning process.

The same procedure described above is applicable to approving components of the plan.

The Watershed Management Act states that:

The planning unit shall not add an element to its watershed plan that creates an obligation unless each of the governments to be obligated has at least one representative on the planning unit and the respective members appointed to represent those governments agree to adding the element that creates the obligation. A member's agreeing to add an element shall be evidenced by a recorded vote of all members of the planning unit in which the members record support for adding the element.

Once the planning unit has approved either the entire watershed plan, or components of the plan, it may submit the plan to each of the counties with territory in the management area (i.e., the counties represented among the initiating governments). In order for a watershed plan to draw on the full legal authority granted by the Watershed Management Act, this submittal must occur within four years of the date the planning unit first received funding for planning activities beyond the initial \$50,000 grant (the law does not directly address cases in which a multi-WRIA management area receives a \$75,000 grant for Phase 1; however the intent appears to be that the four-year period begins when the first state funds are disbursed for Phase 2 activities, or Phase 3 activities if there is no Phase 2 grant).

8.1.2 Special Procedure for Planning Unit Approval of Minimum Instream Flows

If Instream Flows are within the scope of planning designated by the initiating governments, the law prescribes a decision procedure for the planning unit to recommend new or modified minimum instream flows for adoption by the Department of Ecology (Ecology). These are:

- ☐ In order to recommend modification of existing minimum instream flows on streams that have such flows already adopted by rule, the members of the local governments and tribes on the planning unit must vote unanimously to modify such flows, using a recorded vote;
- ☐ In order to recommend adoption of new minimum instream flows on streams where they have not been adopted by rule, the members of all governments and tribes on the planning unit present for a recorded vote must unanimously vote to support the proposed minimum instream flows, *and* a majority of the nongovernmental

members of the planning unit present for the recorded vote must vote to support the proposed minimum instream flows.

8.1.3 County Public Hearing

The legislative authority of each county with territory in the management area is required to hold at least one public hearing on the watershed plan (for purposes of the following discussion, the “watershed plan” means the entire original plan, or those components approved by the planning unit). The counties are required to provide appropriate public notice in advance of the hearing(s).

8.1.4 Joint Approval by County Legislative Authorities

Following the public hearings in the respective counties, the law requires the legislative authorities of all of these counties to hold a joint session to consider the watershed plan. The counties have two options in this joint session:

- ☐ Approval of the watershed plan, by a majority vote in the joint session;
- ☐ Return of the watershed plan to the planning units with recommendations for revisions.

The county legislative authorities convened in the joint session may not amend the plan itself, but must return it to the planning unit if it is not approved. In this case, the same procedure for planning unit approval, followed by the county hearings, and joint session of county legislative authorities is required. If the planning unit approves a revised plan, and the joint session again declines to approve it, the planning process terminates.

8.2 Adoption of Implementing Rules and Ordinances

8.2.1 Counties and State Agencies

Following approval of the Watershed Plan by the joint session of county legislative authorities, the law requires each county in the management area and each State agency that accepted obligations under the plan to undertake implementing actions. For State agencies, these actions include:

- ☐ Adoption by rule of the obligations of both State and county governments;
- ☐ Adoption of rules implementing the state obligations; and,
- ☐ Other actions to fulfill agency obligations as soon as possible.

For counties, these actions include:

- ☐ Adoption of any necessary implementing ordinances; and,

- ☐ Other actions to fulfill county obligations as soon as possible.

As indicated in Section 1.6.2, the law prohibits the watershed plan from creating any obligations unless the government to be obligated is represented on the planning unit and approves the element creating the obligation, in a formal voting procedure.

For both counties and State agencies, additional hearings and procedures may be required to comply with State laws on administrative procedures. However, the hearing and county approval discussed in Sections 8.1.3 and 8.1.4 may permit streamlining of adoption procedures at such time as individual rules and ordinances are adopted. Each agency or government should review applicable administrative law in this regard.

8.2.2 Ecology Adoption of Minimum Instream Flow Rules

The law provides additional guidance for the Ecology in adopting or modifying minimum instream flows as recommended by the watershed plan. First, Ecology “must attempt to achieve consensus and approval among the members of the planning unit regarding the minimum flows to be adopted.” The planning unit approval process is described in Section 8.1.2.

If the planning unit approves modification of previously-adopted minimum instream flows, or setting of new minimum instream flows, the law directs Ecology to undertake rule making to adopt the recommended flows. In this case, three options are provided for Ecology’s rule-making procedure:

- ☐ The regular rules adoption process provided in RCW 34.05 (Administrative Procedure Act);
- ☐ The expedited rules adoption process as set forth in RCW 34.05.230 (Administrative Procedure Act); or
- ☐ A rules adoption process that uses public hearings and notice provided by the county legislative authority to the greatest extent possible.

The law is ambiguous in terms of whether Ecology may proceed with rule-making on minimum instream flows on the strength of planning unit approval, or whether the joint session of county legislative authorities must approve minimum instream flows, as is required for the remainder of the plan.

The law also states that rules to adopt or modify minimum instream flows using the procedures described above “do not constitute significant legislative rules as defined in RCW 34.05.328,” and do not require small business impact statements.

Finally, the law gives Ecology the authority to unilaterally adopt rules setting Minimum Instream flows on streams that do not have them, if planning unit approval of minimum instream flows is not obtained within four years of the date the planning unit first

receives Phase 2 grant funds. In this case, Ecology has two additional years to adopt such rules.

Under any of the rulemaking procedures described for minimum instream flows, Ecology is required to undertake “government-to-government consultation” with “affected tribes in the management area,” regarding setting such flows. The term “affected tribes” is not defined in the law. It would appear to include any tribes with either water rights or claims or fishing rights in streams contributing to their usual and accustomed fishing areas under consideration for Minimum Instream Flows.

8.2.3 Adoption of Plan or Ordinances by Other Governments

The watershed planning and management statute does not require other governments besides counties and State agencies to adopt the plan, rules, or ordinances regarding the plan. However, this manual recommends formal adoption of each government entity’s obligations, in order to promote implementation. In addition, the planning unit may consider the use of formal agreements binding the implementing organizations to undertake specific actions (see Section 9.1).

8.3 Integration with SEPA

Section 11.2 addresses integration of watershed planning with the State Environmental Policy Act (SEPA).

Section 9

Implementation and Financing

Previous chapters have described the process of organizing planning units, performing technical assessments, producing a watershed plan, and approving the plan. Once these steps have been completed, the plan can be implemented. This Section describes techniques for funding and implementing plan recommendations, so that the results envisioned in the plan can be achieved.

9.1 Formal Agreements

As described in Section 8.2, once the watershed plan has been jointly approved by the county legislative authorities, State agencies and counties are required to adopt rules or ordinances to implement their obligations, and to “take other actions to fulfill their obligations as soon as possible.” The law does not contain similar provisions for other participants in the planning process, such as cities, water utilities, Indian tribes, or private organizations. Formal agreements among the participants designated to implement plan recommendations can provide a means for ensuring all participants satisfy their obligations under the plan. These may include Memoranda of Understanding (MOUs), Memoranda of Agreement (MOAs), or other binding agreements.

Formal agreements among participants can itemize each organization’s responsibilities, including:

- ☐ Rules or ordinances to be adopted, and deadlines for adoption;
- ☐ Contingencies in case recommended rules or ordinances do not gain approval during each organization’s adoption process;
- ☐ Specific projects or other actions to be undertaken by each organization, and deadlines or milestones for completion;
- ☐ Collaborative decision-making processes among the implementing organizations, to allow for adaptive management over time;
- ☐ Criteria or decision rules to trigger specific actions in response to incoming information;
- ☐ Additional studies, long-term monitoring, and data management responsibilities, and a schedule for completion;
- ☐ Short-term and long-term financing obligations;
- ☐ Milestones for revising plan elements;
- ☐ Benchmarks and regular reporting schedule, to measure implementation and effectiveness of plan components;

- ☐ Monitoring of implementation, feedback, and contingencies to address cases where an organization proves unable or unwilling to implement the designated activities;
- ☐ Dispute resolution measures.

It is particularly important to provide for a process to track the implementation activities and timelines established in the plan. One means of doing so is suggested in Section 9.2.

9.2 Optional Implementation Committee

A range of implementation activities may be called for in the watershed plan. At one extreme, these activities may be effectively implemented by each organization acting alone and using its own internal procedures. At the other extreme, implementation may require considerable coordination and ongoing decision-making involving all of the implementing organizations together. In this case, it is suggested that the implementation committee, suggested in Section 2.4.5, be reconfigured as a long-term implementation committee. As indicated in Section 2.4.5, the implementation committee, if created, should be accountable to the planning unit as a whole. The composition of the implementation committee can be designed to both assure accountability and provide for direct participation by those organizations that will be responsible for implementing plan components.

If an implementation committee is established for the long-term, then the formal agreement described in Section 9.1 can both identify the organizations to be included, and establish procedures for consultation, coordinated decision-making, etc.

At the implementation stage, the purpose of establishing the implementation committee is twofold: first to ensure that the plan is actually implemented; and second to provide an appropriate process for adaptive management over the long term. With respect to plan implementation, duties of the implementation committee may include:

- ☐ Monitoring and tracking of implementation activities by each organization designated for specific actions, including adoption of rules or ordinances, development of funding sources, implementation of programs, and completion of specific projects;
- ☐ Carrying out contingency plans to address cases where an organization either cannot or does not implement plan elements (e.g. fails to gain approval of a funding program recommended by the plan);
- ☐ Integrating plan implementation with related programs and planning processes, including making adjustments as related programs change over time;
- ☐ Tracking the status of activities, timelines, and changes in watershed conditions;
- ☐ Initiating new rounds of planning unit activity or other processes as appropriate; and
- ☐ Reporting back to the planning unit, or appropriate units of government.

With respect to long-term adaptive management, duties of the implementation committee can be specified by the plan. There should be clear provisions authorizing the implementation committee to modify plan elements in response to changing conditions or new information, but within certain limits established in the plan. One of these provisions may include undertaking a new round of planning unit activity, under specified conditions.

9.3 Options for Financing Plan Implementation

The Watershed Management Act authorizes one-time State grants of up to \$500,000 for each WRIA to fund planning unit organization, technical assessment, and development of the watershed plan. While the cost of implementation will vary considerably among the various management areas around the State, it is anticipated that implementation could require substantial annual expenditures over the long-term. At the present time, the State does not have a program specifically designed to fund implementation of watershed plans. Therefore, funding of plan implementation will have to come from sources such as:

- ☐ Rates and charges collected by water utilities, irrigation districts, waste water utilities, and storm-water utilities;
- ☐ Recreation fees and other user fees;
- ☐ Permit fees related to activities involving water-resources;
- ☐ Revenues derived from county, city, and special district taxes;
- ☐ State and federal grants or loans related to individual plan elements, such as water-supply, wastewater, stormwater, and habitat restoration elements;
- ☐ Grants from private foundations, especially for funding implementation activities undertaken by private, non-profit organizations.

It should be recognized that many activities already funded by local governments may be directly related to implementation of watershed plan elements. For example, revenues already collected by water, sewer, and stormwater utilities to fund conservation programs, environmental mitigation, recreational facilities, and certain types of capital projects may need only slight redirection to satisfy plan elements.

In some cases, it may be feasible to establish new districts within the management area, such as aquifer management districts, water quality districts, etc., to assist in funding plan implementation.

Table 9-1 lists existing state and federal programs that may offer potential for funding individual plan elements. If a planning unit intends to apply for funds from State and federal agencies, it is important to ensure that the plan elements conform with specific requirements of the funding programs of interest.

9.4 Integrating Plan Implementation with Related Programs

One of the most valuable contributions that a watershed plan can make is to establish both a vision and a process to promote coordination of the many programs and plans which affect water resources use in a management area. Table 2-1 addresses many of the relationships between watershed planning and related programs. At the implementation stage, related programs and plans can offer tools for carrying out the elements recommended in the watershed plan. Table 2-1 identifies some of the programs that can provide tools for implementation.

The key to effective integration with related programs is recognition of the linkages between related programs and plan elements. For example, comprehensive plans prepared under the Growth Management Act include designation of “sensitive areas” and adoption of sensitive areas ordinances at the local level. Watershed plan elements may include actions to protect surface and groundwater quantity and quality that are directly linked to the intent of sensitive areas ordinances. Therefore the legal authorities contained in an ordinance may provide tools for implementing those aspects of the plan. Land use and capital facilities planning are also closely related to watershed planning.

Planning units can enhance the viability and effectiveness of watershed plans by careful attention to interrelationships with other processes. The following approach may be helpful:

Goals: Careful attention to articulating the goals of watershed planning can provide planning units with a means of defining linkages with related programs. Generally, the goals of watershed planning are likely to overlap with goals of related programs. Attention to goals can help identify areas where activities can be more closely integrated.

Process. The planning unit should consider where the process of watershed planning can overlap with processes required under other programs. To the extent that procedural requirements can be merged, the watershed plan will emerge as fully integrated with related programs, and additional steps needed to implement the watershed plan will be minimized.

9.5 Long-term Monitoring and “Adaptive Management”

One of the concepts that has been described throughout this manual is the use of an “adaptive management” framework for long-term water resource management. Adaptive management involves the use of well-designed monitoring programs to inform management actions and permit adjustments over time. For example, a management program may include an element designed to reduce certain sources of water pollution. Adaptive management would include a water-quality monitoring program designed to evaluate the effectiveness of this element. Depending on the results of the monitoring program, the implementing organizations would either choose to continue the use of this element, modify it, or discontinue it in favor of another approach.

Adaptive management can only work if appropriate monitoring programs are in place, and if data from those programs is effectively analyzed and put to use in decision-making. This is why this manual devotes considerable attention to developing accessible and effective long-term data management programs (see Section 6).

Monitoring does not only include technical data. In order for the management program to be effective, the implementation committee, or another designated organization, needs to monitor implementation of plan elements by the entities who agreed to undertake them. If certain elements are not implemented as planned, contingencies need to be developed and carried out.

Section 10

Bringing it All Together:

The Complete Planning Process

Previous sections of this Manual have addressed each of the steps in watershed planning separately. Exhibit 10-1 summarizes the entire process from initiation to implementation.

Section 11

Special Considerations

11.1 Listings Under the Endangered Species Act

Listings of threatened and endangered species of fish under the Endangered Species Act (ESA) are expected to have a profound effect on management of water resources in the State. In the months and years to come, many activities and decisions related to water quantity will be linked directly with ESA response at the federal, State, and local levels. Therefore, consideration of salmon recovery will be vital to many watershed plans, even in those watersheds where planning units do not select the optional habitat component under the Watershed Planning Act.

At this time, there is considerable uncertainty associated with the salmon recovery issue (in this discussion, “salmon” refers to wild salmonids including salmon, steelhead and trout and char listed or proposed for listing). As listings occur, the State and federal governments will develop recovery plans, plans that have not yet taken shape. Given this uncertainty over State and federal actions with respect to salmon recovery, what should local governments undertaking watershed planning do?

11.1.1 Relationship of Watershed Planning to State and Federal Salmon Recovery Plans

For each species listed under the ESA (see Appendix K), the National Marine Fisheries Service (NMFS) must develop a recovery plan. Recovery plans identify management actions intended to promote species recovery. NMFS may incorporate the State’s recovery plan in its plan. The State recovery plan is being developed by the Salmon Recovery Office. At this time, neither the state nor NMFS has completed a recovery plan for any salmon species in the state.

Planning units organized to undertake watershed planning can adopt either a proactive role or a reactive role with respect to State and federal recovery plans. In a reactive mode, planning units will review State and federal recovery plans, and adjust planning expectations and recommendations accordingly. In a proactive mode, planning units may develop watershed plans with the specific objective of informing State and federal regulators and suggesting creative options as they develop recovery plans, or as recovery plans are later modified and refined. Local planning units will have limited influence over State and federal recovery plans. The earlier this subject is addressed in the planning process, the more influence they may have.

Even if time and circumstances force the planning units into a purely reactive mode, there is much that watershed planning can do to improve outcomes for both local management areas and the State as a whole. There may be considerable flexibility to

recommend water resource management strategies that both address recovery plans and maximize public benefits. The key is that the development of State and federal recovery plans must be anticipated, tracked, and integrated into the watershed planning process at every stage.

11.1.2 Relationship of the Habitat Element to State Laws and The Salmon Recovery Act

If planning units do include the habitat component in watershed planning, the Watershed Management Act (GMA) requires reliance on existing laws, rules, or ordinances as they apply to salmon recovery. Laws specifically mentioned under the Habitat Element of the Watershed Management Act include the Shoreline Management Act, the Growth Management Act, and the Forest Practices Act. The Watershed Management Act specifically directs planning units to integrate planning with other processes that address response to threatened and endangered fish species. In addition, where habitat restoration activities are being developed under a separate piece of legislation, the Salmon Recovery Act (Appendix B), the law requires that these activities “be relied upon as the primary nonregulatory habitat component” for the purposes of Watershed Planning. The Salmon Recovery Act is summarized in the Box on page 11-3.

The Watershed Management Act and the Salmon Recovery Act can be viewed as addressing different aspects of the problem. The Salmon Recovery Act primarily addresses identification and funding of specific projects designed to improve salmon habitat. In contrast, the habitat element of the Watershed Management Act can be used to place habitat restoration and salmon recovery in the context of broader priorities for water resources use in the management area. For example, planning units may wish to use a portion of watershed planning grants to examine the interrelationships between watershed management approaches and habitat recovery. If a Habitat Restoration Project List is being developed under the Salmon Recovery Act, then the watershed plan under the Watershed Management Act should not propose a different set of specific projects intended to promote salmon recovery. On the other hand, a watershed plan may include the Salmon Recovery Act project identification as one component of a long-term management program.

Components of the Salmon Recovery Act Directly Related to the Watershed Management Act Habitat Element
The Salmon Recovery Act created the State Salmon Recovery Office, within the Office of the Governor. The purpose of the Salmon Recovery Office is to coordinate and assist in the preparation of salmon recovery plans. The Salmon Recovery Office may act as a liaison to local governments and federal officials.

The Salmon Recovery Act also identifies a process for locally-directed development of Habitat Restoration Project Lists. Counties, cities, and tribes are directed to jointly designate the area and lead agency for Habitat Restoration Project Lists. The lead agency is required to establish a committee representing a range of interests, to compile a list of habitat restoration projects. This list must include priorities, and sequencing of activities. If a lead agency is designated, an interagency review team consisting of representatives of the Conservation Commission, the Department of Transportation, and the Department of Fish and Wildlife must evaluate project lists. The Interagency Review Team can remove projects from the list, but cannot add projects. In the event that a lead agency is not designated as stated, the Interagency Review Team is permitted to rank, prioritize and dispense funds for habitat projects, using a specified set of ranking criteria.

The Salmon Recovery Act identifies a “Critical Pathways Methodology,” to be used in developing a habitat project list and work schedule. The Methodology is defined as “a project scheduling and management process for examining interactions between habitat projects and salmonid species, prioritizing habitat projects, and assuring positive benefits from habitat projects.” It includes:

- ☐ Limiting factors analysis (limiting factors are defined as “conditions that limit the ability of habitat to fully sustain populations of salmon.... primarily fish passage barriers and degraded estuarine areas, riparian corridors, stream channels, and wetlands.”) The specific limiting factors are to be designated by a technical advisory group, designated in the law.
- ☐ Identification of local habitat projects that sponsors are willing to undertake. Individual sponsors (i.e. counties, cities, special districts, tribes, nonprofit organizations, or private citizens) are responsible for identification of projects.
- ☐ An indication of how projects will be monitored and evaluated. Each project sponsor is directed to consult with the technical advisory group and affected private landowners in developing this task;
- ☐ The adaptive management strategy that will be used. The committee responsible for proposing the Habitat Restoration Project List is also responsible for this task. If this committee has not been formed, the technical advisory group is responsible for this task.

11.2 Integration with Local Comprehensive Planning and GMA

The Watershed Management Act recognizes that cities and counties, special districts, utilities, and others plan and act under a variety of existing authorities that relate to water resources. To take advantage of that work, avoid duplication, and reduce the potential expense of creating a watershed scale water resource plan, planning units are required to consider all existing plans and related planning activities as they determine the scope of their own planning.

Table 2-1 lists some relevant plans and programs. These should be looked to as existing sources of:

- ☐ Information about existing conditions for inventories necessary for watershed assessments
- ☐ Analysis of impacts on water resources and opportunities to mitigate them
- ☐ Authority to implement watershed plan recommendations

The planning and implementation tools embodied in GMA and SEPA are singled out and discussed briefly below (including in Section 11.3) because they are particularly comprehensive and powerful tools for creating and implementing a water resource plan. Sections 1-7, 2-7, 3.3.2, and Table 2-1 also address this topic.

11.2.1 Relationship of Watershed Plans to City and County Comprehensive Plans

City and county actions are not the only factors affecting current water resource conditions. Nor are they the only source of authority to address problems identified in water resource plans. But city and county actions are a significant part of the overall water resources puzzle because for about 65 percent of the State's land area they:

- ☐ govern land use within their corporate boundaries; and
- ☐ have a great deal of responsibility for choosing and financing infrastructure that both effect and mitigate impacts on water resource.

City and county land use and infrastructure choices create patterns and impacts of settlement that profoundly influence Watershed Management Act elements of water quantity, water quality, habitat, and instream flows.

Historically, water resources have been addressed through a variety of focused means. Plans are developed for sewer, water, or stormwater facilities (within prescribed boundaries not often related to the resource), for example. Shoreline management programs are implemented along important waters of the State. Conditions are applied to development permits with varying degrees of effectiveness to address on-site impacts. Cumulative regional impacts are usually not well addressed or understood.

City and county comprehensive plans are a means to coordinate more narrowly focused efforts in a broader jurisdiction-wide context. They are also a means to focus still broader watershed scale water resource plans. Comprehensive plans help create existing conditions, provide a forum for evaluating and making important public decisions, and provide authority to implement many potential watershed plan recommendations.

11.2.2 Integration with the Growth Management Act

Dozens of laws create the framework for development and implementation of city and county comprehensive plans. In the past decade, the GMA has provided the mechanism to coordinate them for a variety of purposes, including achieving water resources goals. The following GMA requirements provide the power and effectiveness of comprehensive plans to achieve water resource goals whether planning under GMA or not.

For all cities and counties in the State, GMA requires:

- ☐ Development regulations, including shoreline master programs, to be consistent with comprehensive plans and implement these plans.
- ☐ Concurrency: building permits must be conditioned on evidence of adequate potable water supply (quantity and quality).
- ☐ Concurrency: subdivisions can only be approved upon findings of adequate potable water (among other facilities and services).
- ☐ Designation and protection of critical areas including:
 - wetlands
 - aquifer recharge areas
 - frequently flooded areas
 - fish and wildlife habitat conservation areas
- ☐ Critical areas designations and protections must use best available science and give special consideration to conserve and protect anadromous fisheries.

GMA jurisdictions have a slightly clearer mandate. The law provides several additional water-related requirements for cities and counties required or choosing to plan under GMA:

- ☐ Plans must be guided by 14 goals including containing sprawl, retaining open space, encouraging economic development within the capacities of the State's resources, and enhancing water quality and water availability. The goals of the Shoreline Management Act are also goals of the GMA.
- ☐ The land use element of the comprehensive plan must review drainage, flooding, stormwater run-off in the area and nearby jurisdictions and provide corrective actions to mitigate or cleanse those discharges that pollute the waters of the State.
- ☐ Concurrency: public facilities and services must be provided for at the time development occurs; and must show how to pay for capital facilities or must reassess land use decisions.
- ☐ Consistency: comprehensive plans must be internally consistent (coordinating functional plans) and consistent with plans of jurisdictions having common borders or related regional issues

The most significant provision of the GMA bearing on the power and importance of city and county comprehensive plans is the requirement that:

- ☐ all government decisions including capital budget decisions must be consistent with the comprehensive plan.

The plan provides the policy basis and the authority for both short-term actions (e.g., infrastructure investments) and long-term solutions to water resource issues (e.g., shifts in land use configurations).

11.3 Integration with SEPA and NEPA

11.3.1 Integration with SEPA

The movement toward a watershed scale of analysis is in recognition of the breadth and complexity of water resource dynamics and the wide range of factors that influence the resource. Comprehensive inventories, whole-systems analyses, and implementation strategies are necessary to address complex regional natural and built systems and the cumulative impacts of human activities. To be as effective as possible, a watershed plan must be comprehensive and the result of critical analysis. The State Environmental Policy Act (SEPA) provides an analytic framework and a public process that - if used deliberately - is both comprehensive and critical.

SEPA requires analysis and disclosure of the consequences of governmental decisions to natural and manmade environments. Over the years there has been a movement to expand the geographic scope of those analyses. Early on, cities and counties began to provide oversight in the form of requiring permits for individual development projects. SEPA was passed to encourage informed permitting decisions. The Shoreline Management Act came along to give special consideration to areas adjacent to waters of the State. More recently the GMA broadened the scope of analysis to jurisdiction-wide. Now, for those WRIs where watershed planning is undertaken, the Watershed Management Act expands the geographic focus for water resources to encompass the entire watershed. SEPA can and should play an important role at each stage of planning and implementation and for all geographic scopes of analysis.

Adoption of the watershed plan constitutes an action under SEPA for cities, counties and other agencies subject to SEPA. City, county, and State implementation measures such as comprehensive plan amendments, rules, regulations, and capital facilities investments will invoke SEPA. Projects implementing watershed plan recommendations will be subject to SEPA. Consequently, parties to a watershed plan will be well served if the planning unit integrates SEPA considerations into their watershed planning process and products - particularly if economic, administrative, political, and other non-SEPA-required considerations are also included in the analysis.

Early and continuous integration of SEPA considerations into the watershed planning process not only fosters compliance, it also:

- ☐ Saves time and money associated with plan development. Rather than preparing an EIS after proposing a plan, integration means that the plan and the EIS are created simultaneously without duplication of processes, procedures, or documents.
- ☐ Is more likely to result in a better product. The systematic, interdisciplinary approach associated with SEPA ensures a fully informed decision-making process by evaluating impacts of proposed solutions on elements of the built and natural environments.

- ❑ Contributes to public acceptance of the plan. Rather than reacting positively or negatively to a proposal in a draft plan or draft EIS, integrating SEPA into the planning process allows the public to participate in iteratively crafting solutions to issues and problems based on an informed understanding of impacts. Understanding and balancing competing factors contributes to a greater likelihood of developing consensus.
- ❑ Saves time and money at subsequent plan implementation phases. SEPA analyses associated with the watershed plan can be adopted, incorporated, added, or supplemented by jurisdictions or agencies carrying out the plan decisions. The degree of specificity and detail of the environmental analyses in the plan determine the degree to which SEPA requirements for future actions consistent with the plan is reduced or avoided.
- ❑ Reduces the likelihood of SEPA appeals at each stage.
- ❑ Contributes to economic development in appropriate locations by increasing predictability, providing the basis for streamlining the environmental review and permitting process; ensuring adequate infrastructure, and preserving quality of life amenities.

SEPA allows a great deal of flexibility in its application, especially for “non-project” actions like plans. The common sense planning methodology presented in this manual (Exhibit 7-1) closely resembles the SEPA process, expanded by adding analysis of economic, financial, administrative, and political impacts, assessments of feasibility and effectiveness, and other considerations to SEPA’s analysis of impacts on elements of the natural and built environments.

While certain procedural steps are required by SEPA, the most important thing is to take advantage of the flexibility inherent in SEPA. If an EIS is prepared, it will be a *programmatic* EIS, so planning units should not feel constrained by preconceptions about the expense, level of detail, format, or definitions of alternatives often associated with a *project-level* EIS. The Department of Community, Trade and Economic Development can provide guidance about how to mold SEPA to your purposes.

Table 11-1 illustrates the linkages between the preparation of a watershed plan and the preparation of an EIS.

Table 11-1
Comparison of Suggested Watershed Planning Process with a SEPA Environmental Impact Statement (EIS)

Suggested Watershed Planning Process (see Section 7)	Environmental Impact Statement Under SEPA
Watershed plan	EIS
Identify Watershed Management Act elements, parameters, early issues	Scoping: identify elements of the environment potentially affected
Inventory/technical assessment, identify related programs	Summarize existing conditions (DEIS)
Identify issues in greater detail, proposed solutions	Describe proposal(s) and alternatives to be evaluated (DEIS)
Analyze various solutions to each issue according to all relevant criteria	Analyze impacts of proposal(s) and alternatives on elements of the natural and built environments identified in scoping (DEIS)
Recommend actions and strategies (plan adoption)	Recommended preferred alternatives, mitigation requirements (DEIS or FEIS)
Implementation (through other authorities; use existing SEPA documents associated with watershed plan as much as possible in complying with SEPA on implementation actions)	Implementation (plan adoption)
Monitoring	Monitoring (addenda, SEIS)
Adaptive management (plan amendment and implementation)	Adaptive management (addenda, SEIS)

Careful attention to these linkages will reduce costs, cultivate public participation opportunities, streamline the planning process, inform decision-makers, and reduce SEPA requirements in subsequent implementation of watershed plan recommendations.

11.3.2 Integration with NEPA

The National Environmental Policy Act (NEPA) is triggered by various federal actions, including, among others, investments of federal money or actions by federal agencies. Many of the considerations discussed above for SEPA also apply to NEPA. If NEPA is indeed triggered, it would be beneficial to address SEPA and NEPA in a single environmental review document.

11.3.3 Lead Agencies for SEPA and NEPA

It is not required that the lead agency for administering a Watershed Management Act grant be the same as the lead agency for SEPA or NEPA. A SEPA lead agency for a multi-agency program such as watershed planning can be determined by the organizations involved. A NEPA lead agency must be a federal agency. The Initiating

Governments and/or planning unit could conceivably designate or petition three separate entities to serve as lead agency for these three separate purposes.

11.4 Tribal and Other Federal Reserved Water Rights

In addition to the State-based water rights that planning units must consider in assessing the quantity element under the Watershed Management Act, federally reserved rights will be relevant in many management areas. The State does not have the authority to quantify (outside of a general adjudication) or alter federally reserved water rights. These rights must, however, be considered in any meaningful watershed planning effort because in some cases they may represent a significant limitation on water available for other instream or out-of-stream purposes.

A U.S. Supreme Court decision in 1908 established the “*Winters doctrine*” which today defines both tribal and federally reserved water rights. The original case arose when a member of the Fort Belknap Reservation in Montana complained to federal authorities that a non-Indian (*Winters*) living upstream from the reservation was illegally diverting water from the Milk River. The government sued, arguing that under federal law, certain tribal rights to land and water resources are not granted to the tribe by the United States, but rather retained by the tribe because of the tribe’s status as a sovereign entity.

The Court found it inconsistent that the government would in good faith create a reservation and the Indian would cede land in exchange for permanent homes on land rendered valueless without sufficient water. The Court held in its *Winters* decision that Indian reservations include an exclusive possession of enough water to fulfill the purpose of the reservation. The *Winters* doctrine was later expanded to include the principle that other reservations of land by the federal government also carry an implicit reservation of water in an amount sufficient to fulfill the purposes of that reservation. Federal reservations of land include, among others, land for national parks, military bases, national forests, national wildlife refuges, and Indian reservations.

Tribal *Winters* rights date from either “time immemorial” (aboriginal water rights) or from the establishment of the reservation (reserved by the United States). *Winters* rights are not administered by the State and differ from State-based water rights in that they are not subject to abandonment or forfeiture for non-use; they are fully vested as of their priority date. Under the 1952 McCarran Amendment, Congress has allowed state courts to adjudicate water rights held in trust by the United States, but few *Winters* rights in the State of Washington have been quantified. In an adjudication, *Winters* rights are evaluated by examining the treaties, statutes, and/or executive orders establishing the reservation to determine the purposes of the reservation; the proper standard to be used to quantify; and the date the reservation was established, which becomes the priority date of the right.

In addition to water necessary for fulfilling the purposes of reservation land, tribes also have more geographically extensive water right claims arising from treaty reserved fishing rights

off-reservation. This instream flow right is based on the amount of water sufficient to sustain fish runs for commercial, ceremonial, and subsistence purposes in the tribe's "usual and accustomed" treaty fishing area. This includes water of sufficient quality and quantity to comply with the five elements of anadromous fish habitat set out in the Joint Biological Statement in *United States v. Washington*: access to and from the sea; an adequate supply of good quality water; a sufficient amount of suitable gravel for spawning and egg incubation; an ample supply of food; and sufficient shelter.

One of the central issues posed by *Winters* rights and treaty reserved fishing rights is how much water in a basin is available once these rights have been taken into account. Since they are unquantified, they add to the uncertainty associated with water resource uses. One starting point is a qualitative description of those rights, including the tribe(s) involved, known purposes, and geographic extent.

Tribal claims to instream flow based on treaty fishing may overlap in many cases with the Watershed Management Act's objective of producing strategies to supply water in sufficient quantities to satisfy the minimum instream flows for fish. A watershed plan that realistically addresses flows for fish and that is effectively implemented could satisfy the need for water to address treaty fishing rights.

Addressing federally reserved water rights is likely to be easier for planning units that include active tribal participation, candid discussion of the issues, and development of creative strategies that respect federally reserved rights while providing for other legitimate interests both now and into the future.

11.5 Basins Discharging to the Columbia River

Thirty-eight of the State's 62 WRIAs either discharge directly to the Columbia River, or discharge to another WRIA that discharges to the Columbia River. Four of the 38 WRIAs include the Columbia River within their geographic extent; the remaining 34 have the Columbia River as one boundary. Considerations for these WRIAs include:

- ☐ Columbia Basin programs represent both constraints and benefits for local watershed planning. On the constraint side, planning within each WRIA for quantity, quality, habitat and instream flows must address broader needs of the Columbia Basin. On the benefit side, Columbia Basin irrigation, hydropower, and transportation projects fuel the entire region's economy, including the economy within each WRIA.
- ☐ Planning units in this area must consider the "exterior" needs of the Columbia Basin, in addition to the "interior" needs of the WRIA or multi-WRIA management area.
- ☐ In addressing how much water is available for future allocations, how do planning units figure out how much water their WRIA is "required" to deliver to the Columbia to satisfy needs of hydropower, irrigation, transportation, and habitat at a scale greater than any WRIA or management area?

Bibliography

Note: Where possible, each of the listings in this Bibliography includes a notation indicating a source for obtaining the document listed. The most common sources are as follows:

<u>Code</u>	<u>Source</u>	<u>Publication Contact Information</u>
CTED	Washington Department of Community Trade and Economic Development	(360) 753-2222
DOE	Washington Department of Ecology, Publication Center	(360) 407-7472
DOH	Washington Department of Health, Division of Drinking Water	(360) 236-3097
DFW	Washington Department of Fish and Wildlife, Habitat and Lands Division	(360) 902-2534
WSL	Washington State Library	General Public: access through any local library's inter-library loan system. State agency staff: access by contacting State Library directly.

ADJUDICATION

Washington State Water Right Adjudication Process--A Primer

Washington State Department of Ecology, Publication #WR-98-151, 8 page booklet

This publication describes all aspects of a general adjudication of water rights in Washington State. (DOE)

CONSENSUS BUILDING AND ADAPTIVE MANAGEMENT

Compass and Gyroscope

Lee, Kai N., 1993

Island Press

This brief book eloquently illustrates the importance of interest based group processes and lays out the basic definition of adaptive management. (State Library)

Getting to Yes, 2nd ed.

Fisher, Roger, William Ury and Bruce Patton, 1991

Penguin Books

Highly readable and practical handbook on interest based negotiation and conflict resolution. (State Library)

DRINKING WATER SUPPLIES GENERAL INFORMATION

American Water Works Association Back to Basics Series:
Guide to Water Conservation, 2P-2.5M-73020-3/94-MG
Guide to Emergency Planning, 3P-1M-73021-6/95-MG
Guide to Safe Drinking Water, 3P-2M-73014-6/94-JP

Available through AWWA. To order call 1-800-926-7337

Attorney General Opinion - Growth Management Act

Washington State Department of Health, 07/92, Publication #331-107

Attorney General opinion regarding agency authority in regards to determining adequate water supply for building permits. (DOH)

Covenants for Public Water Supply Protection

Washington State Department of Health, 11/87 Publication #331-048

This document describes the covenants, or legal tools, used by purveyors to assure that no source of contamination will be constructed, stored, disposed of, or applied within the sanitary control area. (DOH)

Drinking Water Program Legislative Report (WSAC)

Washington State Department of Health, 11/96, Publication #331-088, Also, available on the internet.

Report to the legislature from the Water Supply Advisory Committee describing their interpretation of how a comprehensive statewide drinking water program should function. (DOH)

Issue Paper: The Growth Management Act and Drinking Water

Washington State Department of Health, 06/93, Publication #331-074.

This document provides a brief description of the relationship between Health's Drinking Water Program and the state's Growth Management Act. (DOH)

DRINKING WATER REGULATIONS

Surface Water Treatment Rule Guidance Manual

Washington State Department of Health, 1995, Publication #331-085, 109 pages

This manual provides guidance regarding implementation of the Surface Water Treatment Rule in Washington. (DOH)

Note: Copies of Washington Administrative Code and Revised Code of Washington Chapters for which the Department of Health Drinking Water Division is the lead agency as well as copies of the Federal Safe Drinking Water Act can be obtained by contacting the Division of Drinking Water at (360) 236-3097.

DRINKING WATER SOURCE PROTECTION

Catalog of Contaminant Databases

LaSpina, James and Robert Palmquist

Washington State Department of Ecology, 1992, Publication #92-52.

A listing of databases of actual or potential contaminant sources. (DOE)

Drinking Water Supplies: Protection through Watershed Management

Burby, Raymond J., Edward J. Kaiser, Todd L. Miller and David H. Moreau, 1983

Ann Arbor Science Publishers

This book describes the importance of the watershed management approach in providing adequate source water protection and presents a useful methodology for developing a science based water supply protection program. (State Library)

Inventory of Potential Sources of Ground Water Contamination in Washington's Wellhead Protection Areas

Washington State Department of Health, 12/93, Publication #331-076, 33 pages

A guidance document for designing and conducting inventories of potential sources of groundwater contamination. (DOH)

Wellhead Protection Program Guidance Document

Washington State Department of Health, Publication, 04/95, #331-018

A step-by-step guidance manual for developing and implementing a wellhead protection program that will comply with the requirements of the federal Safe Drinking Water Act. (DOH)

Wellhead Protection Requirements

Washington State Department of Health, 01/95, Publication #331-106

a brief description of the State's Wellhead protection Program and the requirements for each component of a wellhead protection plan. (DOH)

FISH AND WILDLIFE HABITAT AND LAND USE**Better Trout Habitat: A Guide to Stream Restoration and Management**

Island Press. Washington, CD. 320 pages

It has several pictures and designs for stream restoration. It also describes examples of their use with the disadvantages and advantages of each design. About 1/3 of the book is devoted to fish life cycles and swimming abilities. Available through UW's University Bookstore, \$27.00.

California Salmonid Stream Habitat Restoration Manual, 2nd Edition

Flosi, G, and F. Reynolds. 1994. State of California, The Resources Agency, Dept. of Fish and Game, Inland Fisheries Division. 440 pages

The manual describes accepted [as of 1994] methods for conducting stream restoration, fish habitat classification, large woody debris surveys. Available through CA F&G. (916) 654-1076 or (916) 654-1773.

A Citizen's Streambank Restoration Handbook

Firehock Karen and Jacqueline Doherty. 1995. Save Our Streams Program, Izaak Walton League of America, Gaithersburg, MD. 111 pages.

A manual with some good pointers on restoration.

Contaminants Found in Adult Chinook and Coho Salmon in Puget Sound

Washington Department of Fish and Wildlife

Contact: Greg Lippert (360) 902-2839

Provides good quality data on PCB's in salmon and has some pesticide levels data from agricultural runoff found in salmon. Document is focused on Puget Sound

A Fish Out of Water: The Need to Maintain Instream Flows

Washington Department of Fish and Wildlife

Contact: Cynthia Pratt, Lands and Habitat Division.

A video that discusses how low flows affect migration, spawning, rearing and egg production.

Fish and Wildlife Data Sources

Washington Department of Fish and Wildlife (360) 902-2543 or

<http://www.wa.gov/wdfw/hab/release.htm>

This document lists maps that are available, which include locations of important fish and wildlife species. Some of the information includes barriers, passages and some insufficient flow data.

Fish Passage Database

Washington Department of Fish and Wildlife

Contact: Larry Cowen (360) 902-2557

The Washington State Department of Fish and Wildlife is the central depository for all barrier information. This document has all fish barriers that are known.

Guidelines for Bank Stabilization Projects in the Riverine Environments of King County, Seattle, WA.

Johnson, A.W. and J.M. Stypula, eds. 1993

King County Department of Public Works, Surface Water Management Division

HB 1309 Ecosystem Standards for State-Owned Agriculture and Grazing Land

Ecosystem Standards Advisory Committee

Washington Department of Fish and Wildlife (360) 902-2534

This document contains good reference points concerning salmon requirements.

Influences of Forest and Rangeland Management on Salmonid Fishes and their Habitats

Meehan, William R. ed., 1991

American Fisheries Society

This extensive literature review has summarized the main issues that have framed the science and fisheries management practices of the past decades. This book is essential reading for an understanding of the scientific basis of current fisheries management practices. (State Library)

Integrated Landscape Management for Fish and Wildlife

Washington Department of Fish and Wildlife, 1998.

Contact: Rollin R. Geppert, Lands and Habitat Division.

A pilot Project in the Lewis-Kalama River Watershed WRIA #27, Vol. 1-2, with maps. While this covers more than fish issues, and is limited to WRIA 27, it does provide a prospectus to integrate land use and fish and wildlife issues into a workable landscape plan.

Management Recommendations for Washington's Priority Habitats: Riparian.

Knutson, K.L., and V.L. Naef. 1997

Washington Department of Fish and Wildlife

Habitat and Lands Division (360) 902-2534 or <http://www.wa.gov/wdfw/hab/phrecs/htm>

The Washington State Department of Fish and Wildlife published statewide riparian land use management recommendations based on the best available science to accommodate riparian associated fish and wildlife needs. These recommendations consolidate existing scientific literature and provide information on the relationship of riparian habitat to fish and wildlife and to adjacent aquatic and upland ecosystems

Natural Channel Systems: An Approach to Management and Design

Ministry of Natural Resources. Queen's Printer of Ontario, Ontario, Canada. 103 pages

The book has both technical and non-technical information. Even though it discusses restoration, it also discusses basic concepts of keeping the natural stream integrity, and discussing hydrology and biological functions. Available through the ministry of Natural Resources, Natural Resources Information Centre, RM M1-73, Macdonald Block, 900 Bay St., Toronto, ON M7A 2C1.

Restoring the Watershed: A Citizen's Guide to Riparian Restoration in Western Washington

WDFW, Olympia WA. 13 Pages

A good specific discussion of what citizens need to restore stream corridor habitat, where to get plants, and permits needed. Available through WDFW's Habitat Division (360) 902-2534

SASSI

Washington Department of Fish and Wildlife

Contact DFW, Fish Program, 902-2794

Specifies where salmonids have been located, status, concerns and identifies each segment of data.

Standard Methodologies for Conducting Watershed Analysis

Washington State Forest Practices Board

For copies contact the Washington Department of Natural Resources Forest Practices Division (360) 902-1406.

Primarily focused on forestry impacts on salmonid species this manual is useful in understanding the dominant influences on the physical and biological habitat of salmon species and for explanation of accepted methodologies for assessing fish habitat.

Stream Corridor Restoration

Bernard, Jerry and Ron Tuttle, eds. 1998. USDA Natural Resources Conservation Service. [possibly Colorado]. 650 pages

A notebook (there is a CD version also) of various authors concerning restoration, both instream and out-of-stream. Available through NTIS (800) 553-6847, or check the internet at http://www2.hqnet.usda.gov/stream_restoration/scrhgr5.html. Cost is \$71.00 + \$5.00 shipping for the notebook or \$60.00 + shipping for the CD.

Stream Habitat Improvement Handbook

USDA Forest Service Southern Region. 1992. Technical Pub. R8-TP 16. Atlanta, GA. 29 pages

The book has lots of pictures and discusses advantages and disadvantages of various techniques. It is not technical. There is some overlap with designs given in the Better Trout Habitat book. Available through Vicky Kitzaen, USGS at (404) 347-4064

Watershed Recovery Inventory Project (WRIP). First Draft Report

Washington Department of Fish and Wildlife

(360) 902-2534 - Cost is \$20; or <http://www.wa.gov/wdfw/hab/wrip/wrip.htm>

This is a good document that addresses all watershed issues. It also contains a list of databases from the Department of Fish and Wildlife and others. There are some limitations in the data.

Wild Salmonid Policy

Washington Department of Fish and Wildlife

Fish Management (360) 902-2700

Chapter V of this Final Environmental Impact Statement addresses water concerns.

GROWTH MANAGEMENT AND COMPREHENSIVE PLANNING

Working Together: A Guide to Intergovernmental Coordination under the GMA (CTED)

**Minimum Guidelines to Classify Agriculture. Forest, Mineral Lands & Critical Areas
WAC 365-190 (CTED)**

Preparing your Comprehensive Plan's Foundation: A Land Use Inventory Guide (CTED)

Preparing the Heart of Your Comprehensive Plan: A Land Use Element Guide (CTED)

SMA/GMA Procedural Rules (WACs 173-16, 173-26, & 173-27) (CTED)

Short Course in Local Planning: General Land Use Planning in Washington (CTED)

HYDRAULIC CONTINUITY

Draft Report of the Technical Advisory Committee on the Capture of Surface Water by Wells, Recommended Technical Methods for Evaluating the Effects of Ground Water Withdrawals on Surface Water Quantity.

Prepared by Ross & Associates Environmental Consulting, LTD. Washington
State Department of Ecology, 1998.

This manual shows how groundwater withdrawal by wells captures surface waters and provides tools for calculating the interaction. For a copy of this report contact Doug McChesney, Department of Ecology, (360) 407-6647, or find the report at the following web site: <http://www.wa.gov/ecology/wr/plan/hc.html>

Ground Water and Surface Water: a Single Resource. USGS Circular 1139.

HYDROLOGY AND THE PLANNING PROCESS

Applications of Hydrology to Water Resources Management

Klemes, V. 1973

World Meteorological Organization

This brief book approaches water resource problems from the point of view of the manager with limited resources that must develop a rational approach to water resource management. (DOH)

Application of Results from Representative and Experimental Basins

International Hydrological Programme, 1982

The Unesco Press

This extensive summary of hydrological investigations contains useful illustrations of applied hydrology. (State Library)

Guide for Collection, Analysis and Use of Urban Stormwater Data

American Society of Civil Engineers, Conference Report, 1976

American society of Civil Engineers

This report presents guidelines for designing a data collection and analysis program for urban run-off evaluation. (State Library)

Hydrology and the Management of Watersheds

Brooks, Keneth N., Peter F. Folliott, Hans M. Gregerson, and John L. Thames, 1991

Iowa State University Press

This book provides fundamental information and practical methodology necessary to solve hydrologic problems on watersheds, and to understand and develop watershed management programs. (State Library)

Methods of Computation of Low Streamflow

McMahon, T.A. and A. Diaz, 1982

The Unesco Press

Recognizing the lack of literature on the correct assessment of low flows appropriately linked with their probability of occurrence and duration, this brief report attempts to fill that gap by providing simple methodologies for computing and evaluating the impact of low flows. (State Library)

Methods for Water Balance Computation

Sokolov, A.A. and T.G. Chapman, ed., 1974.

The Unesco Press

International manual for the computation of water balances of river basins, land areas, and surface and subsurface water bodies. (State Library)

Water in Environmental Planning

Dunne, Thomas and Luna B. Leopold, 1978

W.H. Freeman and Company

This text presents an excellent and easy to understand description of Hydrology for environmental planners covering hydrology, fluvial geomorphology and river quality. Includes case studies and methodologies for conducting hydrologic assessments. (State Library)

Water Resources Monitoring Report, 1995-1996 Water Year

Thurston County Storm and Surface Water Program and Thurston County Environmental Health Division, 1997.

INFRASTRUCTURE FINANCING**Directory of Funding and Technical Assistance.**

The Infrastructure Assistance Coordinating Council 9/96

Washington State Department of Health, Publication #331-016

Describes funding and technical assistance sources for water system restructuring. (DOH)

Drinking Water State Revolving Fund Program: *Legislative Report*

Washington State Department of Health, 12/97, Publication #331-116

This report provides an overview of the Department of Health's activities related to the distribution of funds authorized under the 1996 amendments to the Safe Drinking Water Act for public water system improvements. (DOH)

Drinking Water State Revolving Fund: 1997 Guidelines

Fieldsend, Val

Washington State Department of Health, 08/97

This guideline describes how to apply for a Drinking Water State Revolving Fund Loan as well as what will be required if a loan is rewarded. (DOH)

Infrastructure Assistance Directory

Infrastructure Assistance Coordinating Council (available from the Washington Department of Ecology). 62 pages

This document provides a wealth of information on dozens of state and federal grants, loans, and technical assistance programs related to water supply, wastewater, water quality, flood control, and other issues. (DOE)

Information on Ecology's Grants and Loan Program

<http://www.wa.gov/ecology/fap.html>

- The Centennial Clean Water Fund Program
- The Washington State Water Pollution Control Revolving Fund Program
- Clean Water Act Section 319 Nonpoint Source Program
- Flood Control Assistance Account Program (FCAAP) Grants
- Coastal Zone Management Grants

INITIAL WATERSHED ASSESSMENTS

The following Initial Watershed Assessments were produced as Open File Technical Reports by the Department of Ecology, written by various staff and consultants. They cover data in areas like water supply, water quality, water allocation, and streamflow. The number of pages varies. The accompanying summary reports (8 pages each) are also listed below, when available:

Initial Watershed Assessment WRIA 9, Green-Duwamish Watershed, Publication #95-01

Summary report, Publication #95-153

Initial Watershed Assessment WRIA 46, Entiat Watershed, Publication #95-02

Summary report, Publication #95-151

Initial Watershed Assessment WRIA 23, Upper Chehalis Watershed, Publication #95-03

Summary report, Publication #95-150

Initial Watershed Assessment WRIA 35, Tucannon Watershed, Publication #95-04

Summary report, Publication #95-152

Initial Watershed Assessment WRIA 7, Snohomish Watershed, Publication #95-06

Summary report, Publication #95-154

Initial Watershed Assessment WRIA 8, Cedar-Sammamish Watershed, Publication #95-07

Summary report, Publication #95-155

Initial Watershed Assessment WRIA 10, Puyallup-White Watershed, Publication #95-08

Summary report, Publication #95-156

Initial Watershed Assessment WRIA 12, Chamber-Clover Watershed, Publication #95-09

Summary report, Publication #95-157

Initial Watershed Assessment WRIA 13, Deschutes Watershed, Publication #95-10

Summary report, Publication #95-158

Initial Watershed Assessment WRIA 32, Walla Walla Watershed, Publication #95-11

Summary report, Publication #95-159

Initial Watershed Assessment WRIA 45, Wenatchee Watershed, Publication #95-12

Summary report, Publication #95-160

Initial Watershed Assessment WRIA 47, Chelan Watershed, Publication #95-13

Summary report, Publication #95-161

Initial Watershed Assessment WRIA 49, Okanogan Watershed, Publication #95-14

Summary report, Publication #95-162

Initial Watershed Assessment WRIA 55, Little Spokane Watershed, Publication #95-15

Summary report, Publication #95-163

Initial Watershed Assessment WRIA 60, Kettle Watershed, Publication #95-16

Summary report, Publication #95-164

Initial Watershed Assessment WRIA 62, Pend Oreille Watershed, Publication #95-17

Summary report, Publication #95-165

Initial Watershed Assessment WRIA 15, Kitsap Watershed, Publication #97-04

No summary report produced

INSTREAM FLOWS

Setting Instream Flows in Washington State

Washington State Department of Ecology, Publication #98-1813-WR, 4 pages

This publication describes what instream flows are, how they are set, the current status of instream flows in Washington State, and the future direction. (Note: This item is reproduced in the Appendices to this manual. It is also posted on the Web at

<http://www.wa.gov/ecology/wr/sw/instr.html>.

PUBLIC INVOLVEMENT AND EDUCATION

A Bottom Up Primer: A Guide to Citizen Participation (CTED)

Managing Nonpoint Pollution, An Action Plan Handbook for Puget Sound Watersheds.

Puget Sound Water Quality Authority, 1993. (Contact: 360-407-7300)

Towards Managing Growth: A Guide to Community Visioning (CTED)

SEPA

SEPA Statute and Rules (CTED)

WATER QUALITY

303(d) List (Impaired and threatened water bodies)

The list is posted on the Web at <http://www.wa.gov/ecology/wq/303d/index.html>

A Citizens Guide to Understanding and Monitoring Lakes and Streams

Michaud, Joy P., 1991

Criteria for Sewage Works Design, Chapter E1

Washington State Department of Ecology, 1985, Publication #78-5

Water Reuse is the subject of this chapter of the "Orange Book". The Orange Book describes appropriate water pollution control technologies to public works managers. Chapter E1 is currently under development and will be available by December 1998. (\$8 Fee)

Guidance for conducting Water Quality Assessments and Watershed Characterizations under the Nonpoint Rule (Chapter 400-12 WAC)

Coots, Randy, 1995

Washington State Department of Ecology, Publication #95-307 (DOE)

Guidelines and Specifications for Preparing Quality Assurance Project Plans

Washington State Department of Ecology, May 1991, Publication #91-16.

These guidelines describe the elements to be considered for inclusion in a project plan for studies that collect environmental data. A quality assurance project plan describes the objectives of a project and the procedures to be followed to ensure that data generated will serve those objectives.

Managing Nonpoint Pollution, An Action Plan Handbook for Puget Sound Watersheds

Puget Sound Water Quality Authority, 1993. (Contact: 360-407-7300)

Methods of Physical & Chemical Analysis of Fresh Waters

Golterman, H.L., R.S. Clymo and M.A.M. Ohnstad, 1978.

Blackwell Scientific Publications

Description of some methods for chemical and physical analysis of fresh water written with sufficient detail to be useful to readers with limited training in chemistry and limnology. (State Library)

Relationship of Nonpoint Source Programs in Washington and Section 303(d) of the Clean Water Act (Draft)

Roberts and Butkus, 1996,

Washington State Department of Ecology, Water Quality Program.

This document describes how various planning and implementation processes utilized in Washington can be used to meet the requirements of the Clean Water Act for the

development of nonpoint source TMDLs. Note: This document is due out in revised form in December 1998. For copies, contact Chris Maynard, (360) 407-6484.

Standard Guide for Conceptualization and Characterization of Ground-Water Systems

ASTM, 1996

This guide covers an integrated, stepwise method for the qualitative conceptualization and quantitative characterization of ground-water flow systems, including the unsaturated zone, for human induced behavior and changes. It can be used at any scale of investigation including site specific, sub-regional, and regional applications.

Technical Guidance for Assessing the Quality of Aquatic Environments

Cusimano, Bob, Revised 1994

Washington State Department of Ecology, Publication #91-78

This document provides excellent technical guidance on watershed characterization and assessment processes, study designs, long-term monitoring, and data management. In addition, it contains valuable information on developing TMDLs.

WATERSHED PLANNING APPROACH

Entering the Watershed: A New Approach to Save America's River Ecosystems

Doppelt, B., Scurlock, M., Frissell, C., Karr, J., 1993

Island Press, 462 pages

This resource book offers citizens, policymakers and scientists a comprehensive look at the dynamics of watersheds and makes recommendations for watershed planning and riverine restoration projects. This book also provides an overview of water-related local, state and federal laws.

WATER RIGHTS

Examining the Foundation of Water Transfers

Moody, Lloyd, 1997

The Evergreen State College, Master of Environmental Studies Program

This study examines portions of Washington's existing water law, policies and practices as they relate to the potential for increased water transfers as tools to enhance maximum beneficial use of water. (State Library)

Q&A: Water Rights in Washington

Washington State Department of Ecology, Publication #96-1804-S&WR, 5 pages

This publication describes what a water right is, who needs one, the process used in obtaining one, and the differences between permits, certificates, and claims. (Note: This document is posted on the Web at <http://www.wa.gov/ecology/wr/infor/96-1804.html>)

Water Transfers: Recommendations for Washington State

Le Gros, Stephanie N., 1993

The Evergreen State College, Master of Environmental Studies Program

Examines the potential benefits of water transfers in resolving future water allocation problems and examines the legal impediments to this approach. (State Library)

Water Rights Applications

Data on current water rights applications, by county, is posted on the web at

<http://www.wa.gov/ecology/wr/wr.html>

WATER SYSTEM MANAGEMENT

Satellite Management Planning Handbook

Washington State Department of Health, 10/95, Publication #331-103, 70 pages.

An overview of the Health's Satellite Management program with an explanation of Satellite Management Agency regulations and their relationship with other state programs. Satellite Management Agencies are entities that own or operate public water systems on a county or regional basis that do not necessarily have physical connection with one another. (DOH)

Small Water System Management Program

Washington State Department of Health, For a copy of this guide contact Peter Beaton at (360) 236-3150.

This guidance manual provides a step-by-step procedure to assist small water systems in the development of the technical, managerial and financial capability to own and operate their water systems in compliance with local, state, and federal drinking water regulations. (DOH)

WATER SYSTEM PLANNING

Applied Water Resource Systems Planning

Major, David C. and Roberto L. Lenta

Prentice Hall, Inc.

An introductory planning text that describes planning techniques as they were applied in the study of water resources in the Rio Colorado, Argentina watershed. Illustrates planning methods and applications and describes the physical, social and economic trade offs of actual plan selection. (State Library)

Conservation Planning Requirements - Guidelines and Requirements for Public Water Systems Regarding Water Use Reporting, Demand Forecasting Methodology, and Conservation Programs.

Washington State Department of Health, 03/94, Publication #331-008, 33 pages, 26 pages.

This document identifies water use reporting, forecasting, and conservation program requirements for public water systems. (DOH)

Emergency Planning Instructional Guide

Washington State Department of Health, 4/82, Publication #331-030

This document provides detailed instructions to help water systems develop a long range Emergency Response Plan. (DOH)

Planning Handbook

Washington State Department of Health, 04/97, Publication #331-068, Also available on the internet and on disk

This document provides a detailed explanation of how to develop a Water System Plan. This handbook would also be useful for determining what kind of information is contained in a Water System plan and how to find it. (DOH)

Principles of Water Resources Planning

Goodman, Alvyn S., 1984

Prentice Hall, Inc.

This general text is written for the individual interested in an in depth study of the planning process. The book describes general processes and detailed methodologies employed in planning projects involving water and related land resources. (State Library)

Public Water System Coordination Act Handbook

Washington State Department of Health, 06/84, Publication #331-027

This handbook provides a step-by-step approach for developing a Coordinated Water System Plan in accordance with state requirements. The processes described in this manual could be useful on developing an approach to regional water supply planning and coordination. (DOH)

Simulation Techniques for Design of Water-Resource Systems

Hufschmidt, Maynard M. and Myron B. Fiering, 1966

Harvard University Press

Guide for constructing simulation models for water resource systems including procedures for collecting and organizing hydrologic and economic data. (State Library)

Water Resources Planning

Grigg, Neil S., 1985

McGraw Hill, Inc.

Examines water resource planning from the problem solving point of view. Presents principles, case studies and techniques for comprehensive water resource planning. (State Library)

Water Resource Systems Planning and Analysis

Louches, Daniel P., Jerry R. Stedinger, and Douglas A. Haith, 1981

Prentice Hall, Inc.

Provides a comparative evaluation of different water resource planning methodologies. (State Library)

Water Supply Planning: A Case Study and Systems Analysis

Greenberg, Michael R. and Robert M. Hardin, 1976

State University of New Jersey

Case study that illustrates the value of regional planning and application of system simulation modeling to evaluate alternatives. (State Library)

WATER USE EFFICIENCY**Conservation-Oriented Rates for Public Water Systems in Washington- *Report to the Legislature***

Washington State Department of Health, 12/95, Publication #331-113

This document provides a general explanation of rate structures that encourage conservation, the status of the use of such structures in the state of Washington at the time of printing and the constraints to implementing such rate structures as well as opportunities to reduce or eliminate these constraints. (DOH)

Guide for the Preparation of Water Shortage Response Plans

Siffert, Richard and Carol Richmond

Washington State Department of Health, 06/88, Publication #22-647

This guidance manual provides a step-by-step process for water utilities to develop response plans for short-term water shortages. (DOH)

Municipal Water Conservation Analysis and Recommendations

Washington State Department of Health, 08/98.

This report provides an analysis of municipal water conservation in Washington State including recommendations of potential water conservation options. (DOH)

Overview of Conservation-Oriented Rate Structures for Public Water Systems - Questions and Answers

Washington State Department of Health, 04/95, Publication #331-112

This document uses the question and answer format to explain rate structures which may lead to more efficient use of water. (DOH)

So You Think You Need More Water

AWWA PNW Section

Washington State Department of Health, Publication #93-21

A guide for small water systems considering development of new sources of supply.

Provides approaches for successful supply development, identifies typical issues that should be addresses and describes alternative strategies. (DOH)

Water Conservation Bibliography

Wickham, Patricia Ryan

Washington State Department of Health, 06/93, Publication #331-007

A compilation of references to assist public water systems in gathering information on various aspects of water conservation. (DOH)

Water Conservation. Planning Handbook for Public Water Systems

Washington State Department of Health, 11/91, Publication #331-053

This handbook is designed to provide assistance to public water systems in developing water conservation plans. (DOH)

Water Reclamation and Reuse Standards

Washington State Department of Ecology, 08/97, Publication #97-23

This document describes the state guidelines for treatment, monitoring and application of reclaimed water. (DOH)

WETLAND RESTORATION

Exploring Wetlands Stewardship: A Reference Guide for Assisting Washington Landowners

Rubey, Jane

Washington State Department of Ecology Publication #96-120

Contact: Jane Rubey at Department of Ecology (360) 407-7258

This guide describes wetland stewardship techniques and ways technical agents can help landowners get assistance with planning or implementing stewardship on their property. It features a complete directory of assistance programs available in Washington State. \$10 Fee.

Restoring Wetlands at a River Basin Scale: A Guide for Washington's Puget Sound

Gersib, Richard 1997

Washington State Department of Ecology, Publication #97-99

This is written for Puget Sound but has good information that any watershed group could use. Can be downloaded off the Internet –

<http://www.wa.gov/Ecology/sea/pubs/97-99.html>

Appendix A

Watershed Management Act

Appendix B

Summary of Salmon Recovery Act

Appendix C

Examples of Intergovernmental Agreements

Appendix J

Examples of Consensus-based Procedures

Examples of Consensus-based Procedures

Materials Related to Consensus

Consensus: Consensus means unanimous concurrence unless the group by consensus, 1) agrees to define such term to mean a general but not unanimous concurrence; or 2) agrees upon another specified definition. [Code of Federal Regulations; Title 50, volume 3, Parts 600 to end; revised as of October 1, 1997; from the U.S. Government Printing Office via GPO Access; CITE: 50CFR600.750]

“Consensus” means unanimous concurrence among interests represented on a negotiated rulemaking committee established under this subchapter, unless such committee, 1) agrees to define such term to mean a general but not unanimous concurrence; or 2) agrees upon another specified definition. [CITE: 5USC562; Title 5 – Government Organization and Employees; Part I – The Agencies Generally; Chapter 5 – Administrative Procedure; Subchapter III – Negotiated Rulemaking Procedure; Section 562 – Definitions]

Appendix E

State Agency MOU on Watershed Planning

State Agency MOU on Watershed Planning

Overview

As part of a landmark decision to involve local governments in watershed-based decision making, 12 state agencies have established a working agreement to support local efforts to manage Washington's water resources and protect salmon under the Watershed Management Act and the Salmon Recovery Act. The Memorandum of Understanding (MOU) guides agency staff in coordinating the state's activities under these two new laws. It recognizes that agencies' resources to fully participate in local watershed planning activities are limited. This agreement enhances the state's abilities to work together in representing the state's interests and expectations at the dozens of local planning units around Washington State, and allows them to speak as one voice.

There are three basic purposes to this agreement: 1) clarifying the roles and responsibilities of participating Washington State agencies; 2) fostering cooperative working relationships among the participating state agencies, local governments, and tribal governments; and 3) coordinating and, where possible, simplifying the implementation procedures referred to in the Watershed Management and Salmon Recovery Acts.

The basic principles of the MOU include:

- ☐ The commitment to the success of watershed-based salmon recovery and watershed planning efforts;
- ☐ The sharing of information, and coordination/communication between agencies;
- ☐ The early identification of policy issues, dispute resolution, and the ability to address emerging issues through designated statewide leads;
- ☐ The agreement on which agency will be the lead on the local watershed planning unit;
- ☐ Designating the Conservation Commission as the lead for salmon recovery efforts related to limiting factors analyses;
- ☐ The establishment of interagency lead staff, an agency's primary watershed contact, and a local state caucus of participating agencies;
- ☐ Identifying state obligations early-on, with all "obligated" agencies agreeing in writing; and
- ☐ The commitments to implement these obligations will follow a public process.

The MOU clearly defines the State's roles and responsibilities in supporting watershed planning and salmon restoration efforts, and helps to maximize the resources of 12 separate state agencies.

(Source: Department of Ecology, September 1998)

Appendix D

State Agency Contacts for Watershed Planning

State Agency Contacts for Watershed Planning

Contact Information for Governor's Office

(to arrange State Agency representation)

Planning units wishing to invite State Agency participation in the Watershed Planning Process should send a written request to:

Mr. Robert Nichols
Office of Financial Management
PO Box 43113
Olympia, WA 98504
(*original*)

Mr. Joseph Williams
Department of Ecology
PO Box 40117
Olympia, WA 98504
(*copy*)

Department of Health

State-wide Lead

Erik Fairchild
Department of Health
Division of Drinking Water
Airdustrial Center, Bldg. 3
P.O. Box 47822
Olympia, WA 98504-7822
(360) 236-3148
FAX (360) 236-2252

Watershed Planning Coordinator

Jim Rioux
Department of Health
Division of Drinking Water
Airdustrial Center, Bldg. 3
P.O. Box 47822
Olympia, WA 98504-7822
(360) 236-3153
FAX (360) 236-2252

Web Site - <http://www.doh.wa.gov>

Conservation Commission Contacts for Limiting Factors Analysis under HB 2496

Ed Manary State-wide Salmon Recovery Coordinator	PO Box 47721 Olympia, WA 98504-7721	(360) 407-6236 FAX: (360) 407-6215 e-mail: eman461@ecy.wa.gov
Region 1 Whatcom, Skagit, Island, and San Juan Counties, and the Stillaguamish River	Mary Wilkosz 227 NE 92 nd Seattle, WA 98115	(206) 524-7911 FAX: (206) 524-7911 e-mail: mwilkosz@seanet.com
Region 2 Snohomish, Pierce, and King Counties, and the Nisqually River	John Kerwin 48 Summit Road N. Tacoma, WA 98406	(253) 761-8843 FAX: (253) 761-8843 e-mail: jkerwin@mindspring.com
Region 3 North Thurston, Kitsap, East Jefferson, East Clallam, and North Mason Counties	Don Haring 2400 Bristol Crt SW, Suite 100 Olympia, WA 98502	(360) 754-3588 FAX: (360) 236-0941 e-mail: haring@wln.com
Region 4 West Clallam, Grays Harbor, Pacific, South Mason, and West Jefferson Counties	Carol Smith 5432 Boston Harbor Road NE Olympia, WA 98506	Home (360) 357-6986 (360) 427-2196 FAX: (360) 357-6986 e-mail: 4salmon@netscape.net
Region 5 Cowlitz, Lewis, Clark, Wahkiakum, and Skamania Counties	Bryan Cowan 11104 NE 149 th St Bld C Ste 400 Brush Prairie, WA 98606-9518	(360) 696-7631 (ext112) FAX: (360) 696-7515 e-mail: cowankbc@dfw.wa.gov
Region 6 Benton, Yakima, Kittitas, and Klickitat Counties	Kevin Lautz 607 E. Mountain View Ave. Ellensburg, WA 98926-3863	(509) 925-8587
Region 7 Chelan, Douglas, and Okanogan Counties	Carmen Andonaegui 133 E Johnson PO Box 1347 Chelan, WA 98816	(509) 682-8916 FAX: (509) 682-4533 e-mail: carmen@kozi.com
Randy McIntosh Tribal Liaison (Northwest Indian Fisheries Commission)	6730 Martin Way E Lacey, WA 98516	(360) 438-1181 (ext369) e-mail: Randy@McIntosh.com

Washington Department of Ecology Watershed Leads

Watershed Management Approach		2514 Grant Recipient	
<i>Watershed Lead</i>	<i>Phone Number</i>	<i>WRIA</i>	<i>WRIA Name & Planning Scope</i>
Dick Grout/Jon Bucknell	(360) 738-6250	1	Nooksack (N,L,F,H)
Rod Sakrison	(425) 649-7000	2	San Juan (N,L,H)
		3/4	Lower/Upper Skagit (N,L,H)
		6	Island (N,H,F)
Jeannie Sumnerhays	(425) 649-7207	7	Snohomish ¹
Janet Thompson	(425) 649-7128	9	Green/Duamish ¹
Bob Duffy	(360) 407-0239	10	Puyallup ¹
		12	Chambers-Clover (N,L,F,H)
Steve Craig	(360) 407-6784	11	Nisqually (N,L,F,H)
		13	Deschutes (N,L,F,H)
Phil Wiatrak	(360) 407-6652	16	Skokomish-Dosewallips (startup)
Cynthia Nelson	(360) 407-0276	17	Quilcene-Snow (N,F,H)
		18	Elwha-Dungeness (N,L,F,H)
Brian Walsh	(360) 407-6310	22/23	Lower/Upper Chehalis (N,L,H)
Tom Lorange	(360) 407-6300	25/26	Grays-Elokoman/Cowlitz (startup)
		27/28	Lewis/Salmon-Washougal (startup)
Ray Hennekey	(509) 454-7832	37/38/39	Lower Yakima/Naches/Upper Yakima (N,L)
John Monahan	(509) 457-7112	44/50	Moses Coulee/Foster Cree (startup)
		46	Entiat (N,L,F,H)
		48	Methow (N,L,F)
Doug Allen	(509) 575-2490	55/57	Little/Middle Spokane (N,L)
Jean Parodi - interim	(509) 456-6160	62	Pend Oreille (startup)

Footnote: N=Quantity, L=Quality, F=Flow, H=Habitat

¹ Not a funded 2514 area, but priority area assigned Ecology staff

The Department of Ecology also maintains a Web Site devoted to watershed planning:
<http://www.wa.gov/ecology/lats-etc.html>

Washington Department of Fish and Wildlife Contacts for Technical Assistance

Assistance	Contact	Telephone/E-Mail
IFIM Studies; Instream Flows, hydrology and Fish, affects of: water quantity & stream corridors, instream flows and water quality, instream flows and habitat, mitigation projects.	Mitigation and Restoration Div.:	
	Instream Flow Team; (Section fully funded to assist ESHB2514 planning efforts throughout State)	
	Hal Beecher, Section leader	
	Kevin Bauersfeld	Olympia, 360-902-2421 beechhab@dfw.wa.gov
	Cynthia Pratt	Olympia, 360-902-2582 bauerklb@dfw.wa.gov Olympia, 360-902-2597 prattcrp@dfw.wa.gov

Assistance	Contact	Telephone/E-Mail
	Mitigation Team (partial ESHB2514 funding)	
	John Easterbrooks (Yakima area)	Yakima, 509-575-2734 eastegae@dfw.wa.gov
	Gary Engman (Puget Sound area)	Mill Cr., 425-775-1311 engmarge@dfw.wa.gov
	Tony Eldred (E. Washington)	Wenatchee, 509-663-4677 edredte@dfw.wa.gov
Habitat Restoration Projects (includes water flow improvements, e.g., culverts, log jam removal; riparian, gravel placement, etc.)	Jobs for the Environment- (funded through JFE funds) Craig Olds (potential sources for additional watershed implementation funds)	Olympia, 360-902-2540 oldscas@dfw.wa.gov
Habitat Restoration Projects (includes water flow improvements, e.g., culverts, log jam removal; riparian, gravel placement, etc.)	Regional Fisheries Enhancement- (Vol.Prg) Kent Dimmitt (potential sources for additional watershed implementation funds)	360-902-2237
Stream passage projects (includes inventory of passage problems, e.g., culverts, barriers)	Salmonid Screening, Habitat Enhancement and Restoration (SSHEAR) Division Paul Sekulick – Div. Mgr Contact Person – Brian Benson	360-902-2570
Salmon Recover Planning, Limiting Factor Analysis, Critical Pathways Methodology, habitat projects associated with ESHB 2496/2514.	Undetermined. Funding has not been granted for technical assistance yet. Future budget may include headquarters and field staff.	Not available at this time. Contact WDFW planning unit representatives.
Checking for salmon presence in streams, HPA's, Environmental Review.	Regional Fish and Habitat Biologist (Not funded under ESHB2514). Assistance limited by time and funding constraints.	Call Regional Offices or Olympia Headquarters office (360) 902-2591 for specific area phone numbers. Regional Offices: East (509) 456-4082 N. Central (509) 754-4624 S. Central (509) 457-9317 N. Puget Snd. (425) 775-1311 Southwest (360) 906-6704 Coastal (360) 249-1227

Additional State Agency Contacts, Signatory to State Agency MOU

Agriculture	Lee Faulconer (360) 902-1804
Conservation Commission	Steve Meyer (360) 407-6201
CTED	Steve Wells (360) 753-1198
DNR	Craig Partridge (360) 902-1028
Interagency Committee for Outdoor Recreation	Jim Fox (360) 902-3021
Park & Recreation	Bill Jolly (360) 902-8641
Puget Sound Action Team	John Dohrman (360) 407-7305
DOT	Shari Schaftlein (360) 705-7446
Governor's Salmon Recovery Office	Phill Miller (360) 902-2219

Appendix I

Water Resource Act of 1971: Eleven Fundamentals

Appendix H

Department of Fish and Wildlife Potential Information Sources

Appendix F

Education and Public Involvement

Appendix G

Setting Instream Flows in Washington State

Appendix K

Wild Salmonid Listing Status as of July, 1998